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MEDICO-CHIR. SOCIETY
VOL. IV.



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PROCEEDINGS
OF THE
WEST LONDON
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BY
P. S. ABRAHAM, M.D., AND R. W. LLOYD.



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1891.

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Clark, T. Marston	... Twickenham, Middlesex. [S.W.]
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Cooper, Geo. White, M.B.	... 5, Cranley Gardens, S.W.
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Cottle, Wyndham, M.D.	... 3, Saville Row, W.
Coutts, J. A., M.B.	... 64, Welbeck Street, W.
Crombie, J., M.B. (C.)	... Sidcup, Kent.
Creed, C. P. (O.M.)	... 31, Girdler's Road, West Kensington Park, W.
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Davies, Gomer, M.D.	... 9, Pembridge Villas, Bayswater, W.
Davis, H.	... 60, Queen Anne Street, W.

Dent, H. L. R., M.B.	...	29, St. Mary Abbot's Terrace, W.
Des Vœux, H., M.D.	...	4, Ashley Gardens, Victoria Street, S.W.
Dickinson, T. V., M.D.	...	33, Sloane Street, S.W.
Dickinson, W. G.	...	Thanet Lodge, Southfields, Wandsworth, S.W.
Diplock, L. B.	...	Ashwood, Bolton Gardens, High Road, Chiswick.
Dodd, H. W.	...	47, Kensington Park Gardens, W.
Dodsworth, F. C. (C., O.M.)	...	Arlington Park, Gunnersbury, W.
Doran, Alban (O.M.)	...	9, Granville Place, W.
Drewitt, F. G. D., M.D. (O.M.)	...	52, Brook Street, Hanover Square, W.
Dudfield, Reginald, M.D.	...	14, Ashburn Place, Cromwell Road, S.W.
Dudfield, T. Orme, M.D.	...	14, Ashburn Place, Cromwell Road, S.W.
Duncan, W. A., M.D.	...	6, Harley Street, W.
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Eccles, A. S., M.B. (S., C.)	...	34, Leinster Square, W.
Eccles, Wm. McAdam, M.B.	...	St. Bartholomew's Hospital, E.C.
Edwards, F. Swinford (C., O.M.)	...	93, Wimpole Street, W.
Egan, Francis	...	493, Fulham Road, S.W.
Ensor, Edwin Thos., M.D.	...	23, Chesterton Road, North Kensington, W.
Fennings, Allen, M.D.	...	76, Ladbroke Grove, W.
Fenton, F. E. (O.M.)	...	McQuarry House, Uxbridge Road, Ealing, W.
Fenwick, E. Hurry	...	5, Old Burlington Street, W.
Fountain, Ed. Osborne, M.D.	...	The Lawn, Turnham Green, W.
Fox, Francis (O.M.)	...	68, Wimpole Street, W.
Fox, Colcott, M.B.	...	14, Harley Street, W.
Frankish, W. J. (O.M.)	...	102, Sloane Street, W.
Friend, H. E. (O.M.)	...	1, St. Stephen's Crescent, Westbourne Park, W.
Gabe, J. R.	...	16, Mecklenburgh Square, W.C.
Gardner, W. T.	...	43, The Avenue, Mill Hill Park, W.
Garrod, Archibald E., M.D.	...	9, Chandos Street, Cavendish Square, W.
Gillingham, A.	...	485, High Road, Chiswick, W.
Glaister, John, M.B.	...	19, Montserret Road, Putney, S.W.
Glassington, C. W. (O.M.)	...	105, Fulham Road, S.W.
Gloster, J., M.B.	...	15, Upper Phillimore Place, Kensington, W.
Goldney, A. G. N.	...	18, Brook Green, W.
Goldney, A. C. N.	...	18, Brook Green, Hammersmith, W.
Goodsall, D. H.	...	17, Devonshire Place, W.
Greenhill, A. F. (O.M.)	...	The Lawn, Barnes, S.W.
Griffiths, H. J., M.D.	...	18, Young Street, Kensington, W.
Gunton, G.	...	Sunbury House, Limerston Street, Chelsea, S.W.
Hadden, W. B., M.D.	...	21, Welbeck Street, W.
Harper, Jas., M.D.	...	7, Drayton Terrace, South Kensington, S.W.
Harris, Carpenter	...	112, Harley Street, W.
Harris, P. Traer	...	112, Harley Street, W.
Harrison, H. F. E. (O.M.)	...	33, Shepherd's Bush Green, W.
Harrison, Reginald	...	6, Lower Berkeley Street, W.
Hartzhorne, B. F.	...	1, Victoria Villas, High Road, Chiswick, W.
Heaton, George	...	
Heddy, W. J.	...	46, Redcliffe Gardens, S.W.
Herringham, W. P., M.B.	...	13, Wimpole Street, W.
Heycock, F. H.	...	26, Upper Wimpole Street, W.
Hill, T. Wood	...	Clovelly, Westgate-on-Sea.
Hill W., M.D.	...	24, Wimpole Street, W.
Hillier, T. E., M.B.	...	14, Clement's Inn, W.C.
Hobblyn, Wm.	...	Bassein Park House, Rylett Road, W.
Hogan, J. C., M.D. (O.M.)	...	3, Redcliffe Gardens, South Kensington, S.W.
Hood, D. W. C., M.D. (O.M.)	..	43, Green Street, W.
Houghton, P. A.	...	8, FitzJohn's Avenue, N.W.
Hubbard, H. W. (O.M.)	...	19, Elgin Crescent, Notting Hill, W.
Humphreys, F. W.	..	24, Sinclair Gardens, West Kensington Park, W.

Hurlbutt, S. S.	...	15, Old Burlington Street, W.
Jackson, Charles J.	...	3, Fulham Park Villas, Fulham Road, S.W.
James, W. Culver, M.D. (O.M.)	...	11, Marloes Road, Kensington, W.
Jardine, A. Stuart, M.B.	...	
Jones, Handfield M., M.D.	...	35, Cavendish Square, W.
Jones, Macnaughton, M.D.	...	141, Harley Street, W.
Juler, H. E.	...	77, Wimpole Street, W.
Keetley, C. B.	...	56, Grosvenor Street, W.
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Kenwood, H. R., M.B.	...	7, Dorleote Road, Wandsworth Common
Kiallmark, H. W.	...	5, Pembridge Gardens, W.
Kiilner, W. J., M.B. (O.M.)	...	104, Ladbroke Grove Road, W.
Lake, Richard	...	Thornley, Castelnau, Barnes, S.W.
Lamb, W. H., M.B. (O.M.)	...	46, Kensington Park Gardens, W.
Lang, William	...	26, Upper Wimpole Street, W.
Larder, H.	...	Whitechapel Infirmary, E.
Lawrance, F. (P., V.P., O.M., C., T.)	...	1, St. Alban's Terrace, Hammersmith, W.
Leeson, Oliver J.	...	Collingham House, Cromwell Road, S.W.
Lee, George	...	29, Gratton Road, West Kensington Park, W.
Lewers, A. H. N., M.D.	...	60, Wimpole Street, W.
Lloyd, R. W. (S., C., E.P., O.M.)	...	27, Russell Road, Kensington, W.
Lockwood, C. B.	...	19, Upper Berkeley Street, W.
Longhurst, A. K.	...	Hillingdon, Mount Park Road, Ealing, W.
Low, W. Marsden, M.B. (C.)	...	70, Philbeach Gardens, S.W.
Lunn, J. R. (C., O.M.)	...	St. Marylebone Infirmary, Notting Hill, W.
Lush, Percy J. F., M.B.	...	8, FitzJohn's Avenue, N.W.
Lynch, J. Roche	...	8, Boyne Terrace, Holland Park, W.
Lynes, John	...	6, Argyll Road, Kensington.
Lyndon, G. A.	...	2, Pembroke Gardens, Bayswater, W.
Mackenzie, J. I., M.B. (C.)	...	47b, Welbeck Street, W.
Mackinlay, J. G. (O.M.)	...	15, Stratford Place, W.
MacLaren, J. A., M.B.	...	2, Fairholm Road, W. Kensington.
Mallam, W. P. (C., O.M.)	...	169, Uxbridge Road, W.
Manring, P., M.B.	...	40, Glenthorne Road, W.
Mantle, A., M.D.	...	Stanley, Durham.
Mansbridge, J.	...	112, Harley Street, W.
Margrave, M. L.	...	West London Hospital, W.
Mark, Leonard (S., C.)	...	19, Upper Berkeley Street, W.
Marsh, Howard	...	30, Bruton Street, W.
Mason, J. W.	...	1, Osnaburgh Terrace, Regent's Park, W.
Mason, J. W. B., M.D.	...	1, Osnaburgh Terrace, Regent's Park, W.
Masters, J. A.	...	Westhall House, Brook Green, W.
McCausland, A. S., M.D.	...	11, Gloucester Place, Hyde Park, W.
Mennell, Zebulon	...	31, Shepherd's Bush Road, W.
Menzies, J. Herbert (C.)	...	47, Earl's Court Square, S.W.
Merriman, J. J.	...	45, Kensington Square, W.
Miller, J. D., M.B. (O.M.)	...	2, Norland Place, Notting Hill, W.
Moore, Stephen H.	...	Chelsea Infirmary, Cale Street, S.W.
Morris, D. W.	...	54, Lancaster Road, W.
Moullin, J. Mansell, M.D.	...	69, Wimpole Street, W.
Muir, J. C. P.	...	94, Ladbroke Grove, Notting Hill, W.
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Owen, E.	...	49, Seymour Street, Portman Square, W.
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Parkinson, G.	...	36, Sackville Street, W.
Parnell, L.	...	3, Coningham Road, Shepherd's Bush, W.
Parsons, J. Inglis, M.D.	...	9, Collingham Place, South Kensington, S.W.
Paramore, R., M.D.	...	2, Gordon Square, W.C.
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Robinson, G. H. D., M.B.	...	Chelsea Hospital for Women, Fulham Road.
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Rogers, Hildyard (O.M.)	...	43, Uxbridge, Road, W.
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Rutherford, Henry Trotter, M.B.	...	46, Queen Anne's Street, W.
Savage, J.	...	11, Avonmore Road, Kensington, W.
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Scott, A.	...	Fulham Infirmary, Fulham Palace Road.
Scott, Patrick, M.B.	...	Oak Lodge, Kidbrook, S.E.
Shadwell, H. W.	...	12, Goldsmith Gardens, Acton, W.
Shaw, H. G.	...	Lambeth Infirmary, Brook Street, Kennington, S.E.
Sheldon, T., M.D. (O.M.)	...	123, Cornwall Road, Notting Hill, W.
Smith, H. A.	...	Burnham Lodge, Grange Road, Ealing, W.
Smith, Stanley	...	10, Kensington Gardens Square, W.
Smith, Walter, M.D.	...	2, Stanhope Terrace, Gloucester Gate, N.W.
Smith, W. Towers	...	24, Devonshire Street, W.
Spencer, Herbert, M.D.	...	10, Mansfield Street, W.
Spicer, R. Scanes, M.D. (C.)	...	28, Welbeck Street, W.
Staples, J., M.D.	...	9, Burwood Place, Norfolk Crescent, N.W.
Starkie, R. F., M.D.	...	47, Sussex Street, Warwick Square, S.W.
Starling, John	...	Hornton House, Hornton Street, Kensington, W.
Startin, James	...	17, Sackville Street, Piccadilly.

Steele, C. W.	...	1, Florence Terrace, Ealing, W.
Steer, William	...	Union Infirmary, Fulham Palace Road, W.
Stocker, E. A.	...	1, Oakland Terrace, Cricklewood, N.W.
Stocker, W. W.	...	41, Buckley Road, Edgware Road, Brondesbury.
Stubbs, P. B. Travers	...	4, Montrose Villas, Hammersmith, W.
Sunderland, Sept., M.D.	...	155, Gloucester Road, S.W.
Sutherland, Henry, M.D.	...	6, Richmond Terrace, Whitehall, S.W.
Sweeting, R. D. R.	...	39, Addison Gardens, W.
Sydney, Henry, M.D.	...	1, Pownall Gardens, Hounslow.
Tait, E. S., M.D.	...	48, Highbury Park, N.
Taylor, C. H.	...	The Infirmary, Derby.
Taylor, H. H.	...	10, Brunswick Road, Brighton.
Taylor, Seymour, M.D.	...	16, Seymour Street, Portman Square, W.
Thomas, Danford, M.D.	...	Park Lodge, Paddington, W.
Thomson, J. C., M.D.	...	111, Sinclair Road, West Kensington Park, W.
Thomson, W. S., M.D. (C., O.M.)	...	1, Palace Court, Notting Hill, W.
Thornton, B.	...	14, Cecil Square, Margate.
Thorowgood, J. C., M.D. (O.M.)	...	61, Welbeck Street, W.
Thudichum, J. W. L., M.D.	...	11, Pembroke Gardens, Kensington, W.
(P., V.P., C., O.M.)		
Times, Lawrence K.	...	23, Manchester Street, W.
Toulmin, W. C.	...	102, Elm Park Gardens, S.W.
Travers, W., M.D. (P., V.P., C., O.M.)	...	2, Phillimore Gardens, Kensington, W.
Tuke, C. M. (O.M.)	...	Manor House, Chiswick, W.
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Turner, W. A., M.B.	...	
Tyrell, W.	...	95, Cromwell Road, S.W.
Van Buren, E. C.	...	
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Venn, A. J., M.D.	...	122, Harley Street, W.
Verdon, W., M.D.	...	410, Brixton Road, S.W.
Vinen, E. Hart, M.D.	...	22, Gordon Road, West Ealing, W.
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Wainwright, B., M.B.	...	67, Grosvenor Street, W.
Walker, Horace (C., O.M.)	...	143, Hammersmith Road, W.
Wall, Reginald B.	...	78, Bishop's Road, W.
Wallis, F. Chas., M.B.	...	18, St. James's Street, S.W.
Warner, F. A.	...	10, Brechin Place, South Kensington, S.W.
Warner, F., M.D.	...	5, Prince of Wales' Terrace, Kensington, W.
Watson, Spencer, M.B.	...	7, Henrietta Street, Cavendish Square, W.
Wagh, H. D., M.B.	...	6, Sumner Place, Onslow Square, S.W.
Webb, H.	...	Wentworth House, Parson's Green, W.
Webber, W. L. (C., O.M.)	...	54, Holland Road, W.
Weiss, H. F.	...	11, Hanover Square, W.
Weldon, George, M.B.	...	17, Ovington Gardens, S.W.
Wells, A. G.	...	Keith House, Beaumont Terrace, W. Kensington.
Wells, Chas., M.D. (T., C., O.M.)	...	161, Finchley Road, N.W.
Wheatley, A. W., M.B.	...	3, Kennington Court, W.
Whitcombe, P., M.B.	...	164, Earl's Court Road, S.W.
White, C. Percival, M.B.	...	144, Sloane Street, S.W.
Whitmore, W. Tickle	...	7, Arlington Street, S.W.
Wilkin, G. C.	...	344, Uxbridge Road.
Wilkins, H. G. (O.M.)	...	1, Windsor Road, Ealing Road, W.
Willcocks, Frederick, M.D.	...	14, Mandeville Place, W.
Willet, E. S., M.D. (O.M.)	...	Wyke House, Isleworth.
Williams, Alex. L.	...	1, Brunswick Terrace, Kensington, W.
Williams, E. L.	...	Devonshire Street, W.
Williams, H., M.D.	...	7, Chapel Place, Cavendish Square, W.

List of Members.

Williams, R., M.D.	... 95, St. Mark's Road, Notting Hill, W.
Wilson, Arthur E.	... Venner Lodge, Venner Road, Sydenham, S.E.
Wilson, R. W., M.D.	... Aden House, Ennerdale Road, Kew Gardens.
Wilson, William, M.B.	... 148, Goldhawk Road, W.
Woakes, Edward, M.D.	... 78, Harley Street, W.
Wood, N. T.	... 13, St. George's Terrace, Gloucester Road, S.W.
Woodforde, A. P.	... 160, Goldhawk Road, Shepherd's Bush, W.
Woodhouse, F. D.	... Western Asylum, Seagrave Road, Fulham.
Wornum, G. P.	... 6, College Terrace, Belsize Park, N.W.
Wright, W. G.	...

Corresponding Members.

Atkinson, J. M., M.D.	... Civil Hospital, Hong Kong.
Beckingsale, D. L., M.D.	... Granville, British Columbia.
Davis, Surg. E.	... Army Medical Department.
Edward, Surg. A. R.	... Bengal Army.
Harvey, Surg.-Maj. R., M.D.	... Do.
Hendley, Surg. H.	... Do.
Hendley, Surg.-Maj. T. H.	... Do.
Huggard, W. R., M.D.	... Davos Platz, Switzerland.
McCulloch, Surg. T. C.	... Army Medical Department.
Olding, T. F.	... Shiraz, Persia.
Walsh, Surg. J. H. T.	... Bengal Army.
Webster, G. A., M.D.	...

INCOME.		£	s.	d.
Balance in hand from last a/c, rendered 1st July, 1889 ...	By Members' Subscriptions (including arrears) received...	9	11	9
Old Balance by late Secretary, for Session 1888-89 ...	Subscriptions in arrear for last Session, ending May, 1890 ...	83	5	0
	Subscriptions in arrear previous to May, 1889 ...	11	5	6
		£30	15	0
		26	5	0
		57	0	0

EXPENDITURE.		£	s.	d.
To Messrs. Baillière, Tindall & Cox, Printing Transactions	Delivery of	41	11	6
" " " " " "	Postage of	2	10	0
" Messrs. Pulman & Co., Printing Annual Report, etc.	" " " "	0	3	0
" Churchman, Printing, Postcards, etc.	£0 11 8	5	18	0
" Postage, Council Meetings ...	" " " "	4	13	6
" " Ordinary Meetings ...	" " " "			
" " Receipts, Correspondence, etc.	" " " "			
" " late Treasurer ...	" " " "			
" " " " " "	" " " "			
" " Junior Secretary ...	" " " "			
" " Travelling Expenses ...	" " " "			
" Tradesmen's a/c—Grocer	3 7 8	7	1	10
" Baker	0 5 2			
" Milk...	0 9 0			
" Servants' Wages	" " " "	4	1	10
" Collector's Commissions and Expenses	" " " "	3	7	6
" Subscription, Medical Press and Circular	" " " "	2	8	3
" Use of Microscopes, Opening Lecture	" " " "	1	1	0
" Clinical Patients' Expenses ...	" " " "	0	18	0
" " " " " "	" " " "	0	12	6
" Arrears of Subscriptions	57 0 0	74	6	11
" Balance in hand...	29 15 4	86	15	4
		£161	2	3

CAPITAL ACCOUNT FOR 1889-1890.

1889.		£	s.	d.
Sept.—	256 subscriptions in arrear ...	64	0	0
	280 subscriptions owing 1890 ...	70	0	0
1890.				
May 31.—	25 new Members ...	6	5	0
		£140	5	0

SUBSCRIPTIONS PAID.		£	s.	d.
31 May, 1890.—	333 subscriptions paid ...	83	5	0
1890.—	123 subscriptions in arrear ...	30	15	0
1889.—	105 subscriptions old arrears ...	26	5	0
		£140	5	0

Examined and found correct,

PERCY J. F. LUSH, M.B.,
 PHILIP A. HOUGHTON, M.R.C.S., L.R.C.P., } *Auditors.*

STATEMENT OF ACCOUNTS FOR THE FINANCIAL YEAR
ENDING JULY 1ST, 1889.

INCOME.			EXPENDITURE.		
	£	s. d.		£	s. d.
By Members' Subscriptions ...	43	0 0	Churchman (Printing) April to Sept., 1888 ...	9	17 7
By sale of 4 Copies of Transactions	0	10 0	Printing, Addressing and Postage of Notices (Session 1888-89) ...	19	13 10
By Subscriptions to Library Fund	2	2 0	Senior Secretary's Account, including 16s. to Librarian ...	6	5 5
Arrears received by Treasurer ...	2	10 0	Junior Secretary's Account ...	3	3 0
Balance in hand from last year ...	14	0 7½	Refreshments ...	4	8 0¼
	£62	2 7½	Servants' Wages ...	3	15 0
Arrears of Subscriptions ...	60	0 0	To Dinner Fund ...	4	13 0
			Junior Secretary to Librarian ...	0	15 0
				£52	10 10¼
			Arrears of Subscription	£60	0 0
			Balance in hand ...	9	11 8¾
				69	11 8¾
	£122	2 7½		£122	2 7½

July, 4, 1889.

Examined and found correct,

C. H. BENNETT, M.D. }
J. B. BALL, M.D. } *Auditors.*

SESSION 1888-9.

REPORTS OF PAPERS, CASES, DEBATES, ETC.,

AT THE

ORDINARY MEETINGS OF THE SOCIETY.

THE first ordinary meeting of the present Session was held on October 5th, **Dr. Travers**, President, in the chair.

In his presidential address, **Dr. Travers** reviewed the condition of the profession on his entering as a pupil in 1853, contrasting it with the present. He urged the advantages the student and practitioner of to-day possessed over his predecessor, both from a professional and a social point of view. He showed that the qualified aspirant now started not only better equipped to carry out fairly efficiently his daily work, but, beyond this, endowed with an amount of knowledge of scientific medicine that urged him to pursue his student life throughout his entire career. Hence the necessity of such societies as the one he was now presiding over, the proof of such necessity being their increasing number, fulness of attendance, and enhanced vitality. He instanced the immense value the branch meetings of the British Medical Association had been to its provincial Fellows in breaking down the old business of exclusiveness and petty jealousy, and replacing them by free interchange of professional opinions and social courtesies, thus absolutely raising the status of the profession, not only in the eyes of its own members, but in that of the world at large. He felt confident that when, thirty years hence, a future President should repeat his task, he would have to acknowledge that this society had contributed its quota in producing the marked progress he must at such a time have to rejoice over.

Dr. Campbell Pope proposed a vote of thanks to the Presi-

dent for his interesting and instructive address, and *Dr. Alderson* having expressed pleasure in seconding the vote, it was carried by acclamation.

Dr. Thudichum then read a paper on

URÆMIA AND ITS CONNECTION WITH THE ALKALOIDS AND
EXTRACTIVE ACIDS OF THE URINE.

The author defined uræmia as the aggregate of groups of morbid symptoms produced in a body affected with a primary febrile acute, or chronic, illness, by the retention in the body of matters which ought to be discharged, and which in health are excreted so accurately that scarcely a trace of them can be found in the body. Amongst these matters are some which have a specifically *poisonous* effect. Traube's hypothesis, on the contrary, was based upon the assumption of cerebral œdema, which might affect any part or the whole of the brain. In connection with this point, Dr. Thudichum reviewed some experiments adduced by Dr. Carter in his Bradshawe Lectures, and showed that they admitted of no conclusion, as for their appreciation the brain had been assumed to consist uniformly of 80 per cent. water and 20 per cent. solids, whereas *gray tissue* lost 85·27 per cent. of water, while *white tissue* lost 70·23 per cent., and the proportion of gray to white tissue was only imperfectly known. The author then referred to his researches on uræmia in *cholera* and *yellow fever*. In the *cerebrospinal fluid in cholera* he had found two per cent. of urea, in *black vomit* the equivalent of more than one per cent. of urea in the shape of ammonium carbonate. After referring to some cases of uræmia in *typhoid fever* and *exanthematic typhus*, he spoke of uræmia in connection with *acute* and *chronic nephritis*, and correlated many of the symptoms with the effects of the retention in the body of the *alkaloids of the urine* and their products of decomposition. He next showed how they could be isolated by phosphomolybdic acid, and separated and studied. He had isolated six fixed alkaloids, besides small quantities of *volatile bases*. They were (1) *creatinine*; (2) *urochrome*, the yellow colouring matter of urine, now shown to be an alkaloid, completely precipitated by a dilute solution of ferric chloride; (3) *reducine*, distinguished by its reducing ferric, cupric, or mercuric salts to ferrous, cuprous and mercurous salts respectively, and silver salts to metallic silver; (4) *para-reducine*, which united with zinc oxide to

form a compound, $C_6H_9N_3O, ZnO$; (5) *uro-theobromine*, a crystallized alkaloid of the formula $C_7H_8N_4O_2$, therefore isomeric with theobromine from chocolate, but differing from it widely in other properties; (6) *aromine*, an alkaloid which gave an aromatic product like tyrosine, and yielded a compound with platinic chloride.

Several of these alkaloids, and several of the products of their decomposition, are injurious to the body in which they are retained, and may for this reason be termed poisonous. Thus *urochrome* produces convulsions, and its products, *omicholin* and *omicholic acid*, are sialogogues, as already observed by Proust in 1801, and emetic. The author next spoke of experiments on rabbits, and that they must be evaluated with great caution. His researches had been made mainly on human subjects, and in these he had found poisonous *alkaloids* and *extractive acids* retained and produced, sometimes in enormous quantities. As regards the treatment of uræmia, he supported the *use of oxygen* gas by inhalation, as based upon rational premises; the *diaphoretic process* to be enforced in all cases, even where there is no dropsy or œdema at all; and a washing out of the blood by *diluents*, to prevent phlegmonous inflammations, which too frequently afflicted or carried off the uræmic patient. The author also discussed the pathological alteration of the *blood*, of *joints*, and of the *skin* which took place in uræmia, and gave illustrative cases. In conclusion, Dr. Thudichum warned his audience of the many false facts now current in so-called physiological chemistry, and adduced as an instance a matter which passed under the name of *urobilin*, but was only a mixture of products of the decomposition of urochrome, principally *uropittine*, or the red resin of Proust, as described by him in 1801, from which it derived its spectral band, with a little *omicholin*, from which it derived its faculty of green fluorescence.

The *President* felt medical practitioners had to look to medical chemistry for the treatment of uræmia, and he expected help from that source.

Dr. Alderson having alluded to a case, *Dr. Thudichum* briefly replied.

Dr. Abraham showed microscopical specimens of morbid conditions of the skin.

Mr. Percy Dunn showed some interesting pathological specimens.

The Second Meeting of the Session was held on November 2nd, Dr. Travers, President, in the chair.

Mr. Keetley described two cases of

SUPPURATIVE PERITONITIS TREATED BY LAPAROTOMY AND
IODOFORM GAUZE CAPILLARY SYPHON DRAINAGE,

the patients being both school-girls, æt. 11, treated in the West London Hospital in May, 1887, and August, 1888, respectively.

Case 1.—Lilian S. Sudden attack of vomiting, severe abdominal pain, etc. Always enjoyed good health before. Vomiting and pain continued, and on the third day became much worse. No constipation. Both defæcation and micturition painful. Tendency to diarrhœa. On seventh day lower half of abdomen swollen, hard, and evidently contained fluid. Evening temp. 100°. On the ninth day the case came under Mr. Keetley's care, and he opened the abdomen. The intestines were not distended, but were matted together; by separating them, several collections of pus were found and evacuated, and the hot boracic douche was used copiously. Drainage and daily syphon douche. The day after operation she was decidedly better; no vomiting, no pain. That night the pain returned suddenly at 5 a.m., diarrhœa commenced, and at 9 a.m. she died.

Post-mortem.—Intestines extensively matted together, especially in and near right side of pelvis, where small mass of adherent intestines enclosed both the appendix vermiformis and all the right uterine appendages. A concretion in the appendix was so easily squeezed through its walls that probably a perforation existed, and had caused the peritonitis.

Case 2.—Jessie K., also aged eleven, was exhibited to the members present. Scarlatina nine months ago; says she has had a 'big belly' ever since. No albumen now in urine. Fortnight before admission kicked in right loin, and in front of abdomen. Same evening vomiting, severe pain and delirium. On admission no pain; but abdomen, except in epigastric and hypochondriac regions, swollen, tender, and fluctuating. Slight subcutaneous œdema. Laparotomy. Pus evacuated. (1-5000 sublimate) Warm douche. Large rubber drainage tube passed into Douglas's pouch. Two long pieces of iodoform gauze introduced, one into Douglas's

pouch, the other into right iliac region, and when brought out of wounds carried round right flank so as to hang outside enough to act as syphon drains. Moist iodoform gauze underdressing, wood-wool pad over all. Temperature fell from 102° to 99° , and recovery was steady, except that a curious kind of delirium, resembling mania, came on and persisted for some days. Patient did better when boiled water was substituted for medicated douches. Discharged quite well and perfectly healed two months after admission. Three other cases of laparotomy for suppurative peritonitis were briefly mentioned.

Dr. Drewitt asked Mr. Keetley whether in any of his cases there was complete constipation as well as vomiting, as he had seen two children in whom purulent peritonitis simulated intestinal obstruction.

Dr. Alderson had aspirated a case, drawing off one and a half pints of pus, and afterwards another half-pint. Later he opened with a Syme's knife. The patient got well, but now has a hernia in the situation of the wound.

Dr. Lewers said that disease of the uterine appendages should be borne in mind among the probable causes of acute general peritonitis in women. He had examined the pelvic organs in one hundred bodies at the London Hospital, taken as they came from all parts of the hospital, and found the fallopian tubes dilated in seventeen cases; of these five were cases of pyosalpinx. In one of them death certainly ensued from rupture of the tubes causing general peritonitis, and in another also the pyosalpinx was very probably the cause of death. In cases of acute general peritonitis in women, therefore, Dr. Lewers thought that a careful pelvic examination should be made, and, if evidence pointing to disease of the uterine appendages was found, the proper treatment would certainly be abdominal section, washing out the peritoneal cavity and draining it.

Mr. Ballance mentioned a boy who had a blow on the abdomen, followed by pain in right iliac fossa, treated with opium, etc., followed by general peritonitis and death on the sixth day. *Post-mortem*.—General suppurative peritonitis. In cases of repeated pain in right iliac fossa, perhaps during twelve months, he advocated operation in an interval to avoid general peritonitis at some time occurring during an attack.

Mr. Keetley briefly replied. He thought that the surgeon should be called in to such cases from the first, not necessarily

with a view to immediate operation, but with a view to an early consultation and decision as to under what contingencies, or at what time, operation should be done.

Clinical cases shown by **Mr. Ballance**, **Mr. Keetley**, and **Dr. Drewitt**.

Microscopical specimens by **Dr. Abraham**.

Pathological specimens by **Messrs. Dunn**, **Lloyd**, and **Dr. Crombie**.

Mr. Lake showed a typhoid chart of the case recently described in the *Lancet*.



Meeting held Friday, December 7th, 1888, the President, **Dr. Travers**, in the chair.

POPLITEAL ANEURISM.

Mr. C. A. Ballance read the following case:—H. A., æt. 34, French polisher, standing eight or nine hours a day. Once a soldier. Had syphilis in India. Has drunk for years six pints of beer daily. Right femoral artery ligatured by Sir J. Lister in 1881. No trouble with right knee since. Present illness—twelve months ago throbbing sensation at back of knee; no pain. Soon a pulsating tumour, which increased. Until three weeks ago at work; then suffered dull aching pain, with some numbness of leg intermitting until August 16th, when he was admitted to the West London Hospital, having felt a sudden sharp pain in the upper part of the leg, which caused him to fall. He was drunk, had a recent bruise over left eye and subconjunctival hæmorrhage. No history of blow on leg. At time of sharp pain the calf became distended and tense; the pulsation was less obvious, or had decreased in force. August 16th.—On admission, large pulsating swelling from upper part of popliteal space to middle of calf. Leg and foot œdematous, skin tense and shiny. No ecchymosis. 17th.—Temp. 100·8; pain relieved by morphia; milk diet; fluid Oij; magnesia and rhubarb mixture; post.-tibial pulsating. 18th.—Ecchymosis appeared in front and on outer side; pain great. 19th.—More ecchymosis; calf still tense: less pulsation. 20th.—No pain; less tension and pulsation; measurements slightly less;

ecchymosis extending. 22nd.—Ecchymosis all over lower part of leg. 24th.—Femoral ligatured (temp. normal, tongue clean, calf getting soft again); antiseptics; reef knot; kangaroo tendon; coats not ruptured; sheath thick; adherent to vessel; latter pale. 26th.—Dressed; serum came from wound. September 4th and 8th.—Serum again. 14th.—Wound healed. Measurements: 13½ calf, 14 knee, 13 above, as against, on admission, 15 calf, 16 knee, 15 above. Left hospital October 19th. Six weeks on back; one week up. Mr. Ballance made a few remarks on 'Aneurism of both popliteal arteries; on the asepticity of carbolic oil; on ruptured popliteal aneurism; and various methods of treatment,' etc.

Mr. Keetley mentioned a case of an old man with popliteal aneurism of twelve months' duration. Tied femoral after the fashion of Dr. Nicholas Senn, of Chicago, which consists in applying two ligatures side by side, with no intervening division of the vessel. Also, as in Mr. Ballance's experiments, he tied them loosely, not dividing middle and inner coats.

Dr. Clippindale and *Mr. Lloyd* each mentioned a case of popliteal aneurism occurring in both arteries.

Dr. Alderson and *Mr. Paget* remarked on the importance of the question whether carbolic oil after a time underwent a deleterious change.

Mr. Ballance, in replying, said after a time carbolic oil becomes thick and undergoes a chemical change, which it was at present impossible to fully analyze, and which rendered the oil unsafe for storing ligatures for any time. Dr. Koch had shown that carbolic oil was a feeble antiseptic, and he preferred glycerine sublimate 1 in 1000. He considered digital compression the best form of treatment, but it was only applicable when there were plenty of assistants.

Dr. Scanes Spicer read a paper on

SOME HYSTERICAL (SO-CALLED) AFFECTIONS OF THE THROAT,

remarking that obscure and chronic paræsthesiæ of the throat, such as sensations of scraping, foreign body, burning, dryness, itching (causing dry hacking cough), feelings of tension, constriction, ball rising in the throat, were often attributed to hysteria, because no abnormal appearances were detected on casual inspection of pharynx. Until recently no attention was paid to pathological states of the tissues at

the base of the tongue, between the circumvallate papillæ and the epiglottis, such as hypertrophy of the adenoid tissue, called the "lingual tonsils"; engorged veins, conditions due in his opinion to chronic nasal and post-nasal catarrh; mouth-breathing and carious teeth (producing irritating buccal secretions); improper use of the voice; indulgence in condiments, alcohol, hot drinks, and tobacco. They were also found associated with anæmia, chlorosis, gout, neurasthenia, rheumatism, congested portal system. As regards treatment, it was essential, to remove nasal obstruction or catarrh, to adopt nasal respiration, to have carious teeth thoroughly attended to, to keep the mouth rigorously clean, and avoid the causes mentioned. Depletion of portal system and salines were indicated, and treatment of any constitutional deviation from health. But, besides these, thorough reduction of any nodules of adenoid tissue in the situation mentioned was essential; various methods, as gargles, sprays, paints, were inefficient and tedious, and the author unhesitatingly preferred destruction of nodules with the porcelain galvano-cautery point as speedy, safe, sure, and simple, the throat having been cocaineized. If the nodules were large, a snare or knife and vulsellum might be used. Concluding, the author said the above-referred-to paræsthesiæ were not essentially hysterical, but were usually excited by local irritation. He suggested that this might excite hysteria in a predisposed person, and he recommended a careful examination of the structures at the base of the tongue when the above symptoms were prominent.

Mr. Benham read a case of

A GROWTH IN THE LARYNX PREVENTING PHONATION.

In January, 1888, Rose M., aged 25, consulted me for loss of voice, and on making a laryngeal examination I found the fauces to be turgid and extremely gaggy, probably owing to the constant irritation caused by the continual hacking in the futile endeavour to dislodge the obstruction; but by means of cocaine I obtained a good view of the interior of the larynx, and found there was projecting from the margin of the posterior third of the right vocal cord and the surface immediately below it a conical sessile growth, about $\frac{3}{16}$ ths of an inch in length, with its apex projecting, for the most part, upwards, and so preventing complete adduction of the vocal cords, but occasionally during

the attempt of phonation the left cord rode over, as it were, the projecting mass, pressing it down, and so allowed approximation to become more perfect. Seeing now the cause of the aphonia, I at first set to work to educate the patient to become *au fait* with the requirements necessary to remove the growth by an endolaryngeal operation, by way of applying immediately to the surface of it a preparation of boro-glyceride. After some seven or eight operations of this nature, I endeavoured to remove the growth by means of a modified wire snare, but was unsuccessful, so resolved to use a suitable laryngeal forceps, and after a few futile attempts I removed about half of it. A few days later I also succeeded in removing the whole of the remaining portion in two masses, one of which was unfortunately lost, but the other, together with the first piece, I submitted to Dr. Abraham for microscopical examination, and he has informed me that it looks very like a fibroma, there being but little or no evidence of cellular proliferation, or other signs of malignancy.

Dr. Ball then read remarks on

HYSTERICAL MOTOR AFFECTIONS OF THE VOCAL CORDS.

He said: The vocal cords are concerned in two functions, viz., respiration and phonation. Phonation is more frequently affected than respiration. Hysterical aphonia may be complete or partial. A rare form is aphonia spastica, the patient making great efforts to speak but unable to get air through the glottis. Hysterical and stridulous breathing may affect inspiration or expiration, or both. The stridor may be more or less persistent, or may recur at intervals. Aphonia may or may not co-exist with hysterical stridor. Hysterical cough must be considered in part a motor affection of the glottis. The diagnosis of these affections depends, first, on general considerations which apply to all hysterical affections; second, on peculiarities of the symptoms, such as the influence of emotions, the persistence of the voice for certain acts as coughing, the disappearance of stridor during sleep, and the presence of marked sensory affections of the pharynx and larynx. The treatment is partly general, partly local. The tendency to relapse can only be avoided by attending to the general, moral, and physical condition.

The *President*, *Dr. Benning*, and *Dr. Roberts* took part in the discussion. *Dr. Spicer* and *Dr. Ball* replied.

Mr. H. Percy Dunn showed some pathological specimens, and **Dr. P. S. Abraham** some microscopical slides.



January 4th, 1889, *Dr. Travers*, President, in the chair.

CLINICAL EVENING.

DR. DONALD HOOD'S CASE OF ABDOMINAL ANEURISM.

Dr. Donald Hood brought before the society a typical case of abdominal aneurism. The patient was a strong, well-nourished man, aged 39, who stated that two years ago, while lifting a heavy sack of coals, he felt "something give way" in the stomach. Much pain followed this strain, and for the next two months he was unable to work. For the next ten months he was fairly well, though he suffered at times from pain in the back and over the region of the stomach. A year ago he first noticed a lump which "throbbed"; it appeared below the ribs of the left side, and was tender to the touch. He now sought medical advice, but apparently only complained of stomach pain. He was not carefully examined, and remained under treatment for simple dyspepsia up to admission into the hospital on the 17th of December, 1888.

On examination the patient was found to have a globular swelling, three inches by two, the long diameter being transverse in the left epigastric region, about two inches below the ribs. It pulsated strongly and was acutely tender. The skin was not reddened, pain being deep-seated. Though the patient stated that he had suffered much from back-ache, he had not complained of limb pain. There was no history of syphilis, and the general arterial system appeared healthy.

Since admission the treatment had been complete rest in bed, iodide of potassium thirty grains a day, opium in varying amount, with restricted diet, at first the food being thirty ounces of fluid and ten ounces of solids. On January 4th,

the fluid had been reduced to eighteen ounces, the solids remaining the same. The patient has experienced much relief, the tumour being smaller and much less tender. It is also harder, and the man speaks of himself as being quite comfortable, almost free from pain.

Dr. Hood remarked how important it was to investigate carefully all cases of abdominal pain, whether the patient ascribed it to dyspepsia or not. A momentary examination of the abdomen in this case would have at once revealed the true nature of the illness, and have spared the man much suffering. He considered that opium was of great use; it enabled the patient to bear the restricted diet with comfort.

Dr. Herringham had seen one similar case which had been believed to be of the splenic artery, and for which an operation had been suggested, but which proved at death to be an aneurism of the abdominal aorta.

Dr. Alderson read a paper on

A CASE OF RELAPSING TYPHLITIS—RECOVERY AFTER ASPIRATION (2)—EXTERNAL INCISION, WITH REMARKS.

The disease termed typhlitic inflammation of the walls of the cæcum, or its appendix, has occupied the attention of the profession rather prominently of late. The Medical Society of London, after a most able and suggestive paper by Dr. Bull, of New York, "On the Surgical Management of Typhlitis and Perityphlitis," devoted the evening to its discussion. More recently, Sir Dyce Duckworth has published a clinical lecture in the *Lancet* "On the Symptoms and Treatment of Typhlitis." The attention, too, of this society has incidentally been called to this interesting and important disease by our late excellent president, Mr. Keetley, in his practical paper on "Tubercular Peritonitis," and on that occasion, in the after-discussion, I narrated a case that occurred in my own practice of typhlitis in a delicate boy of fourteen, whose recovery resulted after aspiration (2) and an external incision, when alarming symptoms had very plainly shown themselves.

It is now my pleasure to show you this patient, who, after the long period of two years and a half, has continued perfectly well, and whose recovery, after the external incision, proceeded (excluding the sinus) uninterruptedly; and, in fact, he is now a much stronger youth than he was before his

attack of typhlitis, when he was a somewhat delicate and backwardly developed boy of fourteen. I purpose to read from a few brief notes of the case, and to offer some remarks on the cause of the attack, the prominent symptoms, the treatment and the general prognosis of typhlitis, and also a few words as to the prevention of a relapse. In the meantime, I would ask your examination of the patient, directing your attention to the locality of the abscess, to the pale cicatrix of about an inch and a half in length, perpendicular to, and about an inch above, the centre of Poupart's ligament, denoting the situation of a sinus—that at one time was indolent and persistent—and also to the character of his inguinal hernia, which bulges here, and remains as the permanent legacy of his illness.

I attended this youth, E. V., then a lad of fourteen, in 1886, from July 6th to July 17th, with what I then thought was a gastric feverish attack; he had a dirty tongue; suffered from retching, constipation, anorexia, and slight rise in temperature. He complained of stomach-ache, and of pain in the right inguinal region. There were no signs of any hernia, but some indistinct history of a previous sprain. After a week's rest in bed, gentle aperients, and saline mixture, he was quickly convalescent, and returned to school after a fortnight's absence, rather against my wish; but, as his studies were important, and his temperature normal, I gave a reluctant consent.

On August 2nd I was again called to attend E. V., but this time he was evidently more seriously ill. The symptoms were the same, but more severe, and at first rather suggestive of typhoid; and I carefully searched for spots, but discovered none. There was much more pain, which radiated all over the abdomen, but appeared to originate, and was more severe, in the right iliac fossa. After ten days there was distinct tenderness, and a slight fulness over the cæcum. This apparent distension of the cæcum was at first considered as a proof of the possible typhoid type of the fever, but there was never any gurgling; nor, indeed, at any time any serious doubt that the illness was not typhoid, nor of any of the infectious fevers. Nausea and sickness were now prominent symptoms; the abdominal pain was almost constant, and was more diffused; the tongue was furred and brownish. These symptoms continued for about a week, alternating with remissions, and occasional paroxysms of pain; but on the 10th he appeared easier, the sickness much

better, the bowels relieved, and the temperature 100° . I decided to attend the British Medical Association meeting, leaving him in skilled hands.* On my return from Brighton, on the 16th, I found the symptoms much more pronounced, and no doubt as to the disease; and there was now a decided and prominent distension of the right iliac fossa, and acute tenderness, and the general aspect and prospect of peritonitis. On my evening visit I found him very ill; temp. 103° , and in very great pain. He had, on Sunday, passed a very restless and painful night, and on the Monday morning the temperature had risen to 104° . He had another bad day, and on the early morning of the 17th I was hurriedly called to him by his parents, who were greatly alarmed, for he had had no sleep, and had been in agony all night. The temperature was 104.3° ; the pulse small and rapid; the breathing short; pain all over abdomen, but much more severe at the seat of tumour (for the swelling was now increased and prominent). The condition of the patient was one of great danger; that pus was present there was not the slightest doubt, and if it was not promptly got rid of, I felt that the boy must die. I decided to empty the abscess by the aspirator, the patient being highly nervous and excitable, and the swelling very sensitive, even to the slightest touch. I proposed that he should have chloroform: this was given by my friend, Mr. Alderton, whose opinion, too, I was glad to have, and who quite thought with me that aspiration promised the quickest and safest relief. I drew off by the aspirator about a pint and a quarter of dark-green, vilely-smelling pus, and as I withdrew the needle we noticed *a few bubbles of gas*. Mr. Alderton also remarked to me the distinctly *faecal odour* and character of the pus. Immediate and great relief resulted, and on my visit a few hours after the aspiration the temperature had fallen to 100° . E. V. slept well the following night, but it was soon evident that the abscess was refilling, and that the encouraging results were only temporary, for as the abscess refilled there was a return of both pain and fever. I aspirated on the 19th, Mr. Alderton administering chloroform, and this time three-quarters of a pint of the same ill-smelling pus was drawn off, and the same immediate relief of symptoms followed, the temperature almost at once falling to normal.

* I would here gladly thank my *locum tenens*, Mr. Ernest Thompson, now of Kirkham, for his management of the case during my temporary absence.

After this second application the abscess filled now with greater rapidity, and two days afterwards was much more superficial, and fluctuation easily detected; the patient was evidently better. I decided on the 21st to treat it as an ordinary abscess, and opened it with a Syme's knife, and inserted a large drainage-tube, and covered the abdomen with linseed poultice, and over this a layer of tenax. Pus flowed very freely from the drainage-tube, both through and at the sides of the tube; the first few poultices, and also the tenax, were saturated with pus. I washed out the abscess night and morning by syringing with carbolized hot water, and then injected weak solution of tinct. iodi., and later on Zn. SO_4 v. Ag. NO_3 .

After the external incision there was never any rise of temperature, and the progress towards recovery was continuous and uniform. After a few days, when both poultices and tenax were profusely saturated with pus, suppuration slowly but perceptibly declined; but after the removal of the drainage-tube a fortnight later a sinus of three or four inches in length remained, and a part of this refused to heal, and threatened in spite of all stimulation to become persistent (although up to this date, and ten days later, the patient had not left his bed). I therefore laid it open with an ordinary bistoury, and then dressed with zinc lotion, and it soon healed. The sinus previous to incision had contracted, and was considerably reduced in size after pressure by coin pads, and the application of a well-adjusted spica bandage.

On September 12th E. V. left home for Ramsgate quite well; but on his return after a month's residence by the sea, I found the wound continued perfectly sound, but inguinal hernia now existed at the seat of the former abscess, for which I ordered a hydrostatic truss, and this he continues to wear, and is very comfortable.

This is the history, the treatment, and recovery of this youth from a no slight attack of typhlitis; that it was a grave attack there is no doubt, and was not one of those least dangerous forms as Sir Dyce Duckworth describes, that in an early stage "present an iliac tumour, involving only the caput coli, and not the appendix" (in my patient there was no decided swelling of the iliac fossa until a comparatively late period of the illness), "and it is just these cases of delayed iliac swelling that are usually the most urgent, and the more likely to prove fatal."*

* Vide *Lancet*, October 6th, 1888.

That the disease originated in the appendix is most probable, for all authors appear agreed that it is the vermiform appendix of the cæcum that is the part involved in 70 per cent. of the cases of typhlitis; and that the bowel was the seat of the abscess may, I think, be said to be proved by the gas-bubbles that escaped on the withdrawal of the needle, and by the vilely fæcal odour of the pus. The causes of typhlitis are generally limited to two—catarrhal inflammation, or intestinal irritation—and it is almost invariably due to an irritant when the appendix is the lesion affected. I feel rather confident that this illness was due to irritation produced by habitual constipation. There was a distinct history of confined bowels; this may have been caused through the neglect of the boy to attend to Nature's calls. He went to the City of London School, a distance of over five miles from his home, and had to walk a mile to get to the station, and to be at school by 9 a.m. He told me in consequence he had often to hurry over his breakfast, and no time to go to the closet; and, as he said, very often he had to drive off the action of his bowels.

One or two remarks as to the symptoms: the pain at first was rather misleading, and was described as stomach-ache; yet on closer examination, although it radiated all over the abdomen, it could always be found that it originated from the right iliac fossa. I would like also to direct attention to the invidious nature of the early symptoms—that induced at the beginning of illness the suspicion of typhoid that crossed my mind, and that the exacerbations of the evening temperature, and the looseness of the bowels after the mildest aperients, to some extent gave credence to; but this suspicion was of the briefest duration, as I never seriously thought that it was any form of infectious disease that I had to treat. E. V. had one symptom, however, that I very particularly remember, and that was a distinct resistance to touch, especially on the slightest palpation. Now, this resistance of the right oblique, the transversalis and rectus abdominalis muscles, is a symptom of typhlitis that can be early noticed, and is particularly mentioned as of importance in the lecture of Sir Dyce Duckworth, to which I have already referred. As regards treatment, physicians state that typhlitis is a malady not without risk, but that it will get well by rest and opium, and, as Dr. Bristowe, adds, with leeches.

In a leading article in the *Medical Press* for November 12th, the editor writes: "In 70 per cent. of the cases, however,

the appendix itself is the starting-point, and the subsidence of the symptoms is likely to be followed by recurrence unless the offending portion of the gut is removed." Again, in an editorial article on "Perityphlitis," February 27th: "The risks to life of relapsing perityphlitis are only to be successfully dealt with by the patient submitting to laparotomy."

Now, because my patient has made so good a recovery, and because I am able to show him to you quite well, and without having had any relapse after so long an expiration of time (now almost three years), I think possibly that this opinion may be rather too surgical.

Mr. Bull told the Medical Society of London that he had separated his cases of typhlitis that required surgical treatment into three groups. The first consisted of ten cases in which the abscess was opened by incision through its walls without opening the general peritoneal cavity, at periods varying from seven days to six weeks—they all recovered. The second group comprised six cases, in which the peritoneal cavity was opened seven times for supposed perforation of the appendix, with developing peritonitis; the earliest thirty-six hours after symptoms, the latest on the fifth day—*death followed two*. The third group was represented by a single case: the abdomen was opened in the presence of threatening symptoms on the twelfth day of a perityphlitis; no pus was found, nor were there any evidences of recent peritonitis, but the appendix was buried in a mass of old peritoneal exudation.—*Vide Lancet*, November 10th.

Now, the removal of the appendix must, I should think, be regarded even by an heroic surgeon as a serious operation; yet I incline to think that had this youth fallen into the hands of an expert surgeon, confident in his skill in operating, and judging that the brief illness in July was an attack of typhlitis (and I have no doubt now that it was), he might have thought it right, and the more effectual treatment, to have performed a complete laparotomy, and to have removed the appendix.

Now, the vermiform appendix may be, as a distinguished pathologist has said, merely a receptacle for "the cherry-stones that children accidentally swallow"—only a nidus for all manner of indigestible and forbidden food; but it is sometimes eight or nine inches long, is often found to contain fæces, and is not wanted for ornament or uniformity. Is it

therefore unreasonable to suppose that it may have some unknown use, that further light may show, and further research and experiences prove, that it may be worthy of more consideration than perhaps it has yet received, either from the brains of physiologists or at the hands of the surgeons? The best prophylactic is not, I think, the extirpation of the appendix, but, rather, the future safety of the patient is in the avoidance of chill, and in the careful attention to a well-selected regimen, eschewing melons, figs, oranges, or any article of food that contains seeds, pips, or that is indigestible, and particularly to promote a daily matutinal action of the bowels.

As to the special and milder surgical measures used in the case before us, I would mention that although the aspirations did not cure the patient, did not prevent the speedy re-secretion of the pus, yet they gave immediate relief, at once removing the pain and rapidly reducing the temperature. But aspiration did more; it gave the patient strength; it enabled the boy to take nourishment, and afforded time for the abscess to mature and the pus to come almost to the surface, so that fluctuation was easily detected; and time, too, for the abscess to become more circumscribed, for its walls to strengthen and to become stronger, shutting off more effectually the peritoneal cavity, and reducing the chances of any unfavourable sequelæ, thus rendering the external incision a trivial operation to what it might have been at the time of even the first aspiration, and specially at an earlier period of the illness, when the abscess was evidently more or less deeply situated.

With regard to the medical treatment, my own observation confirms the remark of the boy's mother, that he was always better after action of the mild aperient given. The small but frequent doses of gray powder, or soda and gray powder, relieved his sickness, and when followed by an occasional enema of warm water, or warm water and opium, eased his pain, and action of the bowels sometimes resulted. Opium, with and without belladonna, was given internally, and often with relief, more or less, of acute pain; but I think Mr. Lawson Tait's is a wise and timely remark as to the "not infrequent need of caution in the administration of opiates for continued abdominal pain, especially in cases of long-continued inaction of the bowels." I can never forget a case of chronic typhlitis that occurred in an elderly lady whom I attended, and to whom, by the advice of the consulting

physician who had seen the patient with me (three times in the week of the lady's death), I gave opium, or opium and belladonna, frequently for nine days of continued total constipation of the bowels, and who died quite suddenly immediately after a first and sudden attack of fæcal vomiting. The *post-mortem* revealed no obstruction, but intense enteritis, a large cæcal abscess, and the intestines greatly distended with fæces. There can be no doubt that opiates tend to paralyze the bowels and increase silently the mechanical congestion. A word or two in conclusion as to the locality and the cicatrix. Sir Dyce Duckworth, in his lecture, calls attention to the observation of Mr. Treves: "That the cæcum is most frequently situated not in the right iliac fossa, but in the fascia of the psoas muscles; but a meso-cæcum does, however, sometimes exist, hence you may meet with a cæcal or appendicular hernia." This is what I think we may have here, for if the abscess had been on the psoas the boy might probably have been lame, at any rate for a time, and not able, as he was, to swim almost within a month of opening the abscess. A pale cicatrix marks the situation of what, at the least, was a much larger sinus than the remaining scar. Mr. Knowsley Thornton says these sinuses are very apt to become persistent, and very apt to occur if the patient is not kept in bed, and are "usually quite incurable."

In speaking of the prognosis of typhlitis, Dr. Bristowe, in his "Theory and Practice of Medicine," at page 667, writes: "Sometimes the patient recovers; sometimes he lingers for months or years with a constantly discharging abscess, or succession of abscesses."

As a closing remark I would mention that it occurs to me that cases of typhlitis are more common than is generally thought, and especially, perhaps, is this the case in young children. I believe many a case of what may be termed, or is called, febricula, is really mild typhlitis, and if the child could speak, or was old enough to express his feelings, would complain of pain in the right iliac fossa. Indeed, I have, in some such cases as I refer to, noticed a puffiness, if not a decided swelling, that was not a hernia nor "a windy rupture," as our poorer patients often term a swelling in an infant's groin (I am speaking as to my own experience). But if the illness is slight, and these cases recover, they are forgotten; but perhaps at early puberty (and they are generally boys) these little patients may become the victims of

more or less acute typhlitis. If the symptoms are not acute, but insidious, and they recover, these attacks may even then pass unrecognised, or perhaps be mistaken and euphoniouly called gastric fever, or a gastric attack, especially if the symptoms are not urgent and the recovery rapid. The term gastric fever ought, perhaps, never to be used by a well-informed medical man; yet who of us does not use it occasionally? for the term is convenient, and it does not alarm. Although not exact, it is more or less truthful, for there is nausea, or sickness, and there may be fever and pain, and the public look coldly upon the doctor who cannot, or who does not, give a name to the disease he has to treat, so "gastric fever" or "a gastric attack" will continue to be used; and like as Dr. Maudsley once said of congestion, that it was like unto charity, for it covered a multitude of sins, so also will the term gastric fever be more or less frequently used, pleasantly covering many varied omissions and not unpardonable errors; but this mis-naming disease, if used seriously and without due thought, is scarcely to the credit of medicine, or in accordance with the exactness of a science, or even to the advantage of the patient.

NOTE.—The appendix appears as if it dilated and shortened *pari passu* with adult life. I have noticed in some youths (and in my early professional life I made a great many *post-mortems*) that it is sometimes much longer and narrower than is usual.

Mr. Alderton had nothing to add to what Dr. Alderson had said. He had not forgotten the odour of the pus.

Dr. Donald Hood remarked on the extreme importance of the early recognition of these cases. He wished to draw attention to one objective symptom of much value—immobility of the abdominal wall over the seat of inflammation. This would often help to distinguish between the pain due to inflammatory action and the pain of simple colic. A sheet of note-paper placed upright on the abdomen would in many cases accurately demarcate between the area of inflammation and that of natural movement of respiration. A stethoscope placed on the abdomen would also demonstrate the absence of movement; it might be taken for granted that where such absence of movement occurred inflammatory mischief lay behind. It should not be forgotten that typhlitis had no certain specific symptomatology with regard to initial onset. Some cases began with diarrhoea, some

with constipation, and some with simple stomach-ache. Stomach-ache with but very slight rise of temperature should be regarded with suspicion, and in no such cases should aperients be given. With regard to treatment, an experience of nearly twenty years, during which time a large number of cases had come under his care, convinced him that opium was the one remedy. Opium had been given freely to adults and children alike. The food should be entirely of light broths and milk. On no account whatever should aperients be given. The bowels generally acted spontaneously, and he had never seen any harm come from waiting. If the stools were hard and passed with pain, a simple lavement might be used, but only when the bowels were on the point of acting. He stated it often required more courage on the part of the doctor to forbear giving aperients than to order them, owing to popular prejudices. Treated on such lines, Dr. Hood had only seen one death, a young man who, up to the time of admission, had been treated with castor-oil. He had general peritonitis, and at the post-mortem sloughing of the vermiform appendix was found.

Mr. R. F. Benham showed four cases of old dislocation of the hip-joint. T. H., 40 years of age, had had a dislocation since four years of age, due to a fall. He was 5 ft. 1 in. high, and there was 8 in. shortening. J. W. S., eighteen years of age, 5 ft. 2 in. high, 4 in. shortening, due to fall at the age of five. E. S., ten years of age, dislocation discovered as soon as he commenced to walk, $1\frac{3}{4}$ in. shortening. H. H., sixty-three years of age, dislocation occurred during an attack of typhoid fever, forty-five years ago; 5 ft. 2 in. high, $3\frac{1}{2}$ in. shortening.

Mr. Keetley thought that T. H.'s was a case of old strumous disease, and that J. W. S.'s dislocation was one of infantile paralysis. He supposed that E. S. had arthritis as an infant, which so affected the epiphysis that it did not grow. H. H.'s, he thought, was probably the result of osteo-myelitis after typhoid.

The *President* did not think that J. W. S.'s dislocation was connected with infantile paralysis, but he thought it was probably due to accident, and unrecognised at the time.

Mr. Keetley had seen similar cases undoubtedly due to infantile paralysis, which, with the history, had caused him to form the opinion.

Mr. Bruce Clarke mentioned the case of a boy laid up with inflammation of the hip. No suppuration took place, but about

2 in. of shortening, probably due to softening of the head of the bone, and consequent dislocation. The boy came in with fever, and he watched the case on account of inflammation of the hip, and the dislocation took place suddenly one morning.

Dr. Clippingdale showed an infant about seven months old, with a congenital deformity of the upper limb.

State of Parts.—Four digits ; that on radial side is not in usual position of thumb, but has only two phalanges, *i.e.*, it is not opposed to the fingers. But little can be made out of carpus. Both bones of the forearm are present in a more or less rudimentary state. There is a distinct but rudimentary humerus, the head of which seems to be below its proper socket, and can be felt in the axilla, apparently not articulating with any part of the scapula.

Mode of Production.—Probably an intra-uterine dislocation due to sudden and irregular contraction of the uterus, the result of fright. When four months pregnant the mother states she made a sudden movement to prevent a child getting between the platform and a train, and felt a sudden sharp pain in right side of uterus.

Theory.—If the head of the humerus was thrown out of its socket by this sudden violence, then the bone, having no fulcrum to work upon, would, with its muscles, become atrophied. This theory is supported by the puckering of the skin in two places, showing that the surface was originally smooth as the other arm. Hereditary history, none. Treatment, ? amputation.

Dr. Bontor, house-surgeon to the West London Hospital, read notes of three cases of herniotomy shown by Mr. Keetley.

Case I.—S. P., aged 70, admitted September 28th, with right femoral strangulated hernia (strangulation five days' duration), and operated on at once, the sac being excised. Wound healed by first intention. Recovery uninterrupted. She was up wearing a truss on October 23rd. Five days later there was much pain in cicatrix, and next day discharge from small opening. Patient ordered to bed, hot boracic fomentation to be applied ; discharge continued three weeks, wound then closed and patient again allowed up with truss. After two days pain returned ; temperature rose and next day there was more discharge ; no collection of pus could be discovered. Boracic fomentation reapplied. Patient's condition improved, when the silk ligature (handed round) which had

secured the stump of the sac, was removed, and now, one week after, the sinus is closed, and there is but a small superficial wound. It is premature to discuss the question of radical cure in this case.

Case 2.—M. F., aged 50, rupture came down seventeen years ago during confinement, but until two months before admission, kept up by truss, when it became much larger and prevented the patient from getting about. On admission this right femoral hernia was larger than a man's head, and quite irreducible (photograph handed round).

In order that the condition of the patient and of the hernia might be improved, for this purpose a very limited diet on the Banting system, all the starchy, fat-forming elements being excluded. The foot of the bed was raised, elastic pressure was kept on the hernia by means of knitted woollen bags. After about a month of this treatment, the hernia was reduced, and the following day the operation performed, the sac being stitched into the ring, which was large enough to admit several fingers. The outer part of the skin was removed and the inner part drawn over to the outer side in order that the wound might be removed from the genitalia. The wound healed by first intention. That the cure of so large a hernia will be radical is almost beyond hope; the patient will, however, be in a more comfortable position than she has been for years.

Case 3.—S. M., aged 53. Had right femoral hernia six months; no truss was worn. On September 28th, 1888, the rupture increased in size, and there were symptoms of strangulation, but there was still impulse on coughing, so patient was put to bed with an ice-bag applied and the foot of the bed raised. The symptoms subsided. She had heard of and desired the radical cure. On October 2nd the operation was performed, and the interest of the case was in the fact that there was no sac and the protruding structure was not bowel, but a hard white tubular process, containing a little semi-transparent gelatinous substance in its lumen. A ligature was placed round this, and the end excised, the stump being returned into the abdomen, and the operation completed in the ordinary way. This patient was up wearing a truss in sixteen days, and has had no discomfort since. There is now no more impulse on one side than the other.

Mr. Keetley remarked that the ligature in the first case might not have been quite aseptic. It was possible to render silk ligatures aseptic by boiling them, and in this they had

an advantage over catgut. It was too soon to say whether the radical cure had been established in these cases.

Mr. Benham mentioned a large hernia. He was having a collar to fit round the thigh with a hinged flange to support the hernia, and he hoped to show the patient, or at all events the apparatus, to the society.

Mr. Bruce Clarke alluded to a family suffering from accidental vaccinia. The only member who escaped of the five slept in a cot, the others occupying the same bed and being inoculated from the vaccinated one.

Mr. Bruce Clarke showed a patient after nephrolithotomy. A. M., 25 years, was operated on the first time by Mr. Clarke in June, 1888, two large and six or seven small stones being removed. Left the hospital well in six weeks. A slight discharge from the loin returned shortly after she went out. The pyuria never ceased for longer than a week, though it has lately only been a few spoonfuls instead of three-quarters of a pint as before first operation, and the woman is much stouter. December 4th, second operation, five or six small stones were removed. January 4th, 1889, very slight discharge from sinus. Urine still contains a trifle of pus and lithates. More stones in upper part of kidney, those removed having been taken from lower portion. It had been explained to husband that it might be necessary to do a larger operation, and either remove the kidney or attack it higher up.

Dr. Pope had seen a nurse-girl that day who fell across a rail, striking her side; she passed a good deal of blood, apparently from the kidney, then a swelling formed in iliac region which became an abscess; pus was passed in quantities. The kidney was afterwards removed by Dr. Bantock, and in a large sac was a small stone weighing only 48 grs. She did well, leaving the hospital in twenty-six days. He asked Mr. Clarke whether he would drain the kidney first, or remove it straight away in such a case.

Mr. Clarke, in reply, pointed out that the kidney might be removed at any time, but once removed could not be replaced.

Dr. Abraham showed some interesting sections under the microscope.



Ordinary Meeting, February 1st, Dr. Travers, President, in the chair.

Dr. Abraham exhibited some microscopic sections illustrating lesions of the skin, and a slide with spermatozoa obtained from a stain, of medico-legal importance, two years old. He also showed a man, æt. 31, with a meningocele occupying the greater part of his nose, and springing from *beneath* the nasal bones. The tumour was of the same relative size at birth. About six years ago it had been injured by a blow, and had become inflamed. It was lanced by a surgeon, a little blood and "water" flowing as a result, the latter continuing to drip for a day or so until the puncture healed. At the present time the swelling measures about two and a half inches in length and in diameter, and exhibits manifest expansive pulsation; a "curve" of which, taken by means of a tambour arrangement and recording cylinder, shows a rapid systolic uprise and a well-marked diastolic impulse. It does not seem to be much affected by respiration. Gentle compression partially empties the tumour.

Mr. Paget then read

TWO FATAL CASES OF FRACTURE OF THE PELVIS,

exhibiting the specimens. These cases are of some interest.

Case 1.—A healthy man, æt. 26, was struck obliquely across the body by a plank a ton weight, which fell upon him. When seen in hospital some hours after, he was cold and shivering, with a pale, dusky face. Pulse small, regular, 130. Respiration almost wholly thoracic, 26. He was perfectly conscious. He complained of an intense desire to empty his bowels, saying that the pain "had gone from his stomach to his back passage." He had not passed water since the accident, and a catheter passed easily, a pint of bloody urine escaping—the colour of weak coffee. The flow of urine through the catheter did not rise or fall with respiration. The abdomen was flat and relaxed. All the soft parts around the pelvis were bruised, and there was distinct crepitation on pressing the sides of the pelvis. There was extreme pain, tenderness, and considerable swelling in the region of the right kidney. He also complained bitterly of thirst, and drank greedily.

Afternoon.—Body hot to touch, temp. 99° , pulse 140. The accident happened at 7 a.m. Five or six ounces of blood-stained urine were drawn off in the evening.

Next morning he was drowsy and, while quiet, free from pain. Two ounces of blood-stained urine drawn off. He took nourishment well. In the afternoon he became worse, face sunken, hands cold and clammy, tongue furred, pulse 150, very weak; respirations 26, almost wholly thoracic; abdomen hard, slightly swollen, and tender. No hiccough, no vomiting. He died at 9 p.m.

Post-mortem.—There was extravasation of blood all about the pelvis. The right iliac region, the right half of the scrotum, and the perineum as far back as the triangular ligament, were deeply stained with blood. The right psoas and iliacus were full of blood. All round the right kidney was a very large extravasation, and quite an insignificant hemorrhage in the right kidney substance itself. In the pelvis and lower part of abdomen there were signs of peritonitis; there was a little flaky lymph smeared over the lower coils of intestine. Bladder contracted, slightly bruised, contained half an ounce of urine. Blood effused round the cæcum and in the mesocolon. Small intestines distended with gas. Large intestines contracted over hard fæces. Rectum bruised. Pericardium contained three or four ounces of serous fluid, and each pleural cavity six or eight ounces of blood-stained serum. There were four fractures through the pelvis. The iliac bones were torn away from the sacrum in the sacro-iliac synchondroses, and there were fractures on either side of the pubes and ischia. The perineum and urethra appeared intact.

Case 2.—A boy, æt. 9, was run over by an omnibus, and brought to the hospital. His right arm was broken just above the elbow. The right hip and thigh, including the inguinal region, were so swollen with blood that the pulsation of the femoral was felt with difficulty. He was in great pain, and collapsed. The abdomen moved freely in respiration. Water was drawn off clear. He complained very much of thirst, and drank greedily. The bowels acted once naturally. He died twelve hours after the accident.

Post-mortem.—All the tissues about the pelvis, especially on the right side, were loaded and swollen with blood. Very extensive and profuse extravasation into the sub-peritoneal tissues. Scarpa's triangle was covered by a thick layer of blood. In the right iliac region there was a small laceration

of the peritoneum, and through it more than a pint of blood had flowed into the peritoneal cavity. Bladder and urethra uninjured. Rectum distended with fæces, and badly bruised. Under-surface of right half of diaphragm bruised. Two small cracks on upper surface of liver. On either side of the pubes there was a fracture through the pubes and ischium. The right side of the pelvis was fractured near the sacro-iliac joint, and a splinter of bone was driven right through the under surface of the external iliac vein, allowing profuse hemorrhage.

Mr. Paget remarked that the situation of the fractures in both these cases showed the truth of what *Prof. Humphry* says in his treatise on the "Human Skeleton": "The pelvic ring is the weakest at five points, at or a little external to both sacro-iliac synchondroses, at the symphysis pubis, and midway between the symphysis and the acetabula. Hence, fractures, whether from blows, falls, or foreign bodies passing over the pelvis, are most frequent at these points." Both the patients complained of intense thirst, but he could find no record of this symptom in similar cases, and if directly due to loss of blood, it must be a sign of great importance. In neither case were the bladder and urethra injured.

Treatment was commenced with frequent small doses of laudanum, which gave very great relief in the first case. In the second no treatment was possible, and, indeed, both the cases seem to belong to a group which will never admit of exact diagnosis or of active treatment.

In the discussion which followed the reading of these cases, *Dr. Alderson* said he considered the thirst coming on before fever had time to arise an evidence of internal hemorrhage.

Dr. Macnaughton Jones referred to a case of fracture of the crest and spine of the ilium, which was sustained by a woman as a result of a crush. The woman was admitted on account of a difficulty in walking. She was kept in the dorsal position, with a felt splint strengthened by thin metal bands surrounding the pelvis. Union was complete after several weeks.

Mr. Keetley said that death in the second case was so evidently due to puncture of the external iliac vein, that his hearing *Mr. Paget's* paper would help to guide him in dealing with such a case. He referred to *Mr. Joseph Bell's* successful practice of drawing off the urine by aspirating above the pubes in fracture of the pelvis.

In reply, *Mr. Paget* said he felt the important symptom of thirst was due to hemorrhage. He considered it impossible to diagnose in those two cases the principal seat of injury before death.

Dr. Charles Wells showed a specimen of scirrhus of the pylorus and said the patient was married, *æt.* 45, the mother of five children. No history of cancer or phthisis in family. Has had delusions for the last four years, which have lately improved. Has been low-spirited. Until five months ago considered herself well, when she consulted Dr. Wells, who found a swelling as large as a small hen's egg to the right and above the umbilicus, and a small nodule as big as a bean just below; these were free from the abdominal wall, rising and falling with respiration. She complained of violent pain spreading from the navel at intervals, constipation and irregularity of the bowels for last six months. A week after vomiting commenced, and occurred once or twice daily until death. The vomit was of partially digested food, and appeared to be due to obstruction at pylorus. Patient soon became emaciated, but very much improved on nutrient enemata of egg, beef juice and brandy every two hours—2 oz. at a time. She took a small quantity of *sod. bicarb.* and *tr. opii* after vomiting, and that was all by the mouth. The vomiting was considerably relieved by the medicine, and usually only occurred about every other day, and then was in quantity about three pints of liquid. Thirst was a distressing symptom. The skin was rough and dry, and the breath had a very sweet odour.

Post-mortem.—Stomach much enlarged; liver small and congested; gall-bladder full of bile and parts around stained. The whole of the pyloric region was infiltrated with hard cancer, completely blocking the orifice, with thickening of the walls of the stomach in that region, but not extending into the duodenum. The little nodule felt during life proved to be secondary in the membranes resting on the head of the pancreas, which was also very hard and nodulated.

CASE OF DUODENAL CATARRH (?).

Mr. Mallam then read the following case: *E. M.*, *æt.* 48, married, 6 children, youngest *æt.* 11. At 21 had inflammation of the bowels; at 25 dysentery. Has suffered for many years from indigestion, flatulence, and "spasms," usually relieved by brisk aperient, but once or twice requiring

morphia. On February 26th, 1887, she had such an attack during the day, was sick once in the evening; he saw her doubled up with pain in abdomen, which was partly relieved by morphia subcutaneously. He kept her under the influence of morphia two days, then giving her bromide and chloral. There was much pain over the liver, which was increased in size, and there was pain in right scapular region. Slight jaundice came on, and the tongue became red and dry. On March 5th a consultant saw her, and considered it to be a case of duodenal catarrh, and gave potassium bicarb. and opium. A few days later jaundice increased, and there was headache, and delirium set in; the urine became the colour of mahogany. The bowels were only relieved after aperients. March 12th.—Temp. 103° , pulse 114, and occasional shiverings; no bile in fæces. 14th.—Temp. 100° , pulse 110. 21st.—Pulse 120, temp. rarely above normal, never more than 101° , occasional shivers, jaundice very marked, much bile pigment in urine; opium discontinued. 22nd.—The consultant saw her again, diagnosis, obstruction of common gall duct; liq. potassæ ordered. 28th.—Mr. H. A. Reeves saw her, but did not think operative interference advisable, as he feared a swelling he felt might be connected with the pancreas, and advised watching a little longer. April 5th.—As the condition did not improve, and no bile appeared in the stools, Mr. Reeves came prepared to explore and remove gall-stones if found. Before he came an enema had caused a bile-stained motion, so operation was postponed. There was no more bile and no change until April 15th, when the patient said she had felt “something go in her head,” and the five weeks’ delirium came to an end, a little wandering only occurring occasionally for a few days. 21st.—After two days’ pain at bottom of back and in perineum, a quantity of hard white fæces were removed, and an enema cleared out the bowel. 23rd.—Bile reappeared in the fæces, having been absent for six weeks, except on the one occasion. Gall-stone was carefully watched for by washing the fæces, but not found. No albumen in urine throughout. The colour of the skin gradually faded.

He remarked that it was such a case as we might meet with any day in our practice, and called attention to the absence of bile from the stools for six weeks, and the long period of delirium and the sudden recovery of mental power eight days before bile appeared in the fæces. He said,

too, the case illustrated what Nature could do under favourable conditions, and pointed to the great deliberation necessary before interfering by operation. The patient has recovered her health completely.

Dr. Herringham said Mr. Mallam's case was of great interest. The combination of jaundice, fever and delirium was usually of fatal augury. Recovery such as in the present case was extremely rare. The symptoms seemed to point from the first to gall-stones rather than catarrh. To localize the seat of obstruction in the common bile duct was to go beyond what the facts warranted, unless dilatation of the gall-bladder could be made out, and this symptom had not been mentioned. Supposing this to have been made out, the operation of removing a stone from the common duct was, to judge from a case of cholecystotomy which he had observed, of considerable difficulty. In Mr. Mallam's case the stone had no doubt escaped in the usual way by ulcerating either into the duodenum or colon.

Dr. Pope said he had in some respects a similar case under his care now—jaundice, pain, some delirium, bile in urine, and fever. The patient is in an advanced state of pregnancy. He would like to hear remarks as to the advisability of operative interference. A lady, 76 years of age, when under his care, then passed a gall-stone as big as the end phalanx of the index-finger after seven weeks' illness. A new plan of treatment has of late been mentioned if the gall-bladder be distended, namely, squeezing out the contents.

Dr. Macnaughton Jones said Dr. Pope's case was very interesting. He would like to know the exact character and extent of the symptoms before allowing matters to take their course, or to take the undoubted risks of operating. Generally he was not in favour of heroic treatment in such a case as Dr. Pope's. He would be inclined to bring on labour at a favourable moment, the child being viable, as he thought the mother would have a better chance then.

The *President* said it impressed on the society the advantage of aiding one's diagnosis by examining through an abdominal wound, which would become more commonly practised. He thought that as soon as it was found hopeless to proceed, the wound should be closed. Great mischief was done by going on under such circumstances.

Ordinary Meeting, March 1st, Dr. Travers, President, in the chair.

Mr. John R. Lunn read notes of

THREE CASES OF EMPYEMA TREATED BY RESECTION OF PART OF A RIB.

Case 1.—John D., æt. 3, unhealthy-looking, admitted to St. Marylebone Infirmary on July 10th, 1888, with bronchitis. There were signs of pleuritic effusion on the right side of the chest. In a few days an ounce of thick tenacious pus was withdrawn by the aspirator. His temp. was 105° . On August 1st I resected a piece of his seventh rib, and washed out the pleural cavity with boracic lotion. The dressings were removed on the fifth day, temp. 98° , wound nearly healed. On August 7th, temp. 101° , the old opening was enlarged with dressing forceps, after which he recovered. On August 12th signs of lateral curvature were noticed in the dorsal region, leaning from the affected side. A Sayre's jacket was applied.

Case 2.—Edith D., æt. 5, admitted July 26th, 1888, rickety. Empyema right side, temp. 101° . On July 31st portion of seventh rib resected; much thick pus and membrane escaped. August 1st, temp. normal. On August 13th child was very ill again, and the chest was reopened and the child recovered. A similar lateral curvature occurred as in Case 1, and was treated the same; the children being slung in a kind of hammock while the plaster was being applied, as recommended, I believe, by Mr. Davy, of the Westminster Hospital.

Case 3.—Annie H., æt. 15, admitted June 1st, 1888, with right pleuritic effusion. Tapped June 5th, clear fluid being withdrawn by the aspirator. On June 12th temp. rose to 103.2° , when 5xii. of thick pus were drawn off. She still continued to get worse, and I resected a piece of eighth rib, and thoroughly drained the right pleural cavity, which was washed out with 1-40 warm carbolic lotion. This had soon to be discontinued on account of carbolic irritation. The wound was then dressed with iodoform and wood-wool. She went to a convalescent home in September, and no lateral curvature was noted. On October 20th re-admitted with slight discharge from the old wound. Lung sounds healthy,

lung expanding well; slight falling away of dorsal spine noted for the first time from the affected side. She was put up in a plaster jacket, and has since returned to service. The wound quite healed.

Remarks.—Empyemas should be treated as abscesses generally, *i.e.*, opened fairly early, but with strict antiseptic precautions. I think empyema may exist sometimes without causing much constitutional disturbance. I always advise that an empyema should be opened, if possible, before adhesions or contractions of lung have taken place. It is always advisable to explore the chest with a needle before commencing the operation, to make sure the case is one of empyema, and not ordinary effusion, which generally submits to aspiration. I think, with Mr. Godlee, the eighth or ninth intercostal space exterior to the angle of the scapula is the best and safest place for drainage. Easily done by incision, one or two inches long, through skin and intercostal muscles, and then passing a probe and dilating the opening into the pleura with the finger or dressing forceps, thus avoiding hemorrhage, which can generally be stopped by pressure. I think an anæsthetic should always be given, and the patient laid on the affected side near the edge of the table. In young children it is best to resect a portion of rib carefully, leaving the periosteum. I used bone forceps for dividing the bone. After removing the portion of bone, I pass a thick drainage-tube about one inch long, securing it with threads and a safety-pin. Then wash out the pleural cavity with Condly's fluid in preference to carbolic lotion. After about the second or fourth dressings, I generally leave out the tube; when a clean cavity exists the wound tends to heal too quickly, as in two of my cases, in which I had to reopen the wounds. Some weeks after I have noticed patients have generally developed lateral curvature from the affected side. I think it is important to discontinue washing out when the discharge becomes less. Prognosis is generally good. If the incision is much lower than the seventh or eighth interspace there is, Mr. Godlee states, the danger of wounding the diaphragm. In adults the intercostal spaces being wider than in children, it is not so often necessary to resect any portion of ribs.

In the discussion which followed the introduction of these interesting cases, the *President* asked Mr. Lunn to briefly explain what he meant by antiseptics as applied to these cases, and whether the application of Sayre's jacket in cases

accompanied by lateral curvature was to restore the chest to its normal shape.

Dr. Thudichum mentioned that a medical man had performed over 300 cases as far back as 1860, with very good results.

Mr. Mallam mentioned a case of curvature following pneumothorax after fracture of a rib, which rectified itself.

Dr. Batten asked whether he recommended syringing out in all cases, as many did well without. He said there was often a difficulty about the anæsthetic.

Dr. Macnaughton Jones did not think it fair to compare Listerism with cases that got well without it. It was not recovery alone, but the rapidity of it and absence of complications wherein lay the value of antiseptics.

Mr. Lunn, in reply, said that about one inch was generally removed—he spoke of children under 10 years. He did not use the spray, especially with children; but he used boiling hot water for his instruments. The object of the jacket was to prevent the curve increasing. His cases were very old ones, with a good deal of pyogenic membrane, and he thought it useful in such cases.

Dr. Macnaughton Jones read a paper on

CHRONIC SUPPURATIVE DISCHARGES FROM THE EXTERNAL
AND MIDDLE EAR.

He first reviewed the present position of otology both as regards ear ferments and bacteria, whether fungi or septic, pathogenic or malarial microbes. He pointed out how these microbes relatively operated in inducing catarrhal suppurative conditions of the ear, collating the researches of Löwenberg, Berzold, Weber-Liel, Orne, Green, Zaufal, Wreden, Burnett, De Rossi, which, when viewed side by side with the work of such bacteriologists as Pasteur, Keeke, Crudelli, and many others, established the etiological basis of the greater part of modern aural treatment. He instanced this by a new etiological classification of such suppurative conditions founded on this view, and a differentiation of these suppurative states themselves. Accompanying these tables was a classification of the various remedies, antiseptic and other, availed of in the treatment of chronic suppurative discharges. He critically compared in detail the different moist and dry antiseptic methods of treatment, indicating the dangers to be avoided in the latter, and the

special circumstances under which he still preferred the former method. The mode of dealing with collateral complications, such as polypi and aspergillus, was detailed, the special crocodile lever ring forceps and galvano-cautery that he uses being shown, and as well as the method of working with his armed aural probe in cleansing and applying medicaments to the ear.

Dr. Thudichum showed a fungus, $2\frac{1}{2}$ inches in diameter, developed from mycelium from an ear. He objected to syringing. He adopts the dry method after cleansing with cotton-wool, blowing in a powder of iodoform and boracic acid.

Dr. Fennings called attention to a blow on the ear as a cause. He saw a boy suffering from facial neuralgia, and, on examining the ear next day, found a rent in the membrane, the result of a blow.

Mr. William Hill, in endorsing *Dr. Macnaughton Jones's* view of the importance of recognising the fact that aural suppurations were associated with the presence of micro-organisms, alluded to a paper of his own (read at the Glasgow meeting of the British Medical Association, and summarized in the "Year-Book of Treatment," 1889), in which he had indicated the provision made by Nature for keeping microbes in check. He pointed out that the various tonsils, including masses of adenoid tissue, in the Eustachian tube and naso-pharynx must be regarded as manufactories for scavenging leucocytes, which latter migrate into the mouth, pharynx, nose, Eustachian tube, and tympanum, and whose function is to devour micro-organisms of suspicious character prowling about those regions. Where the individual was "below par," as in the strumous diathesis, for instance, the various tonsils were abnormal, and the scavenging leucocytes less in number and less vigorous. Hence such individuals were susceptible of zymotic diseases, and often the subjects of aural discharges. He strongly urged the importance of cod-liver oil, iodide, and phosphate of iron, and sulphate of calcium as promoting more healthy action. *Mr. Hill* also alluded to the difficulty experts had in seeing and cleansing ears daily during at least the first week of treatment. Hospital patients suffered much on this account.



April 5th. Dr. Travers, President, in the chair.

CLINICAL EVENING.

Mr. Swinford Edwards showed a man, æt. 64, with a large anal growth, who, except occasional bleeding at stool, had been quite well until six years ago, when he noticed a small swelling at the margin of the anus, which gradually grew, until four months ago, when it increased more rapidly, having since then increased at least one-fourth. There is no pain or difficulty in defæcation, but considerable discharge and pain is occasioned by sitting. Slight enlargement of inguinal glands, and for a few months patient has been getting much thinner. The growth is sessile, and completely obscures all view of the anus. It is 5 inches antero-posteriorly and $3\frac{1}{2}$ inches transversely across, and has a lobulated secreting surface. There is no induration of the skin around. From the centre of the growth there is a fistulous track opening into the rectum dorsally about one inch above the sphincter. Microscopic examination of a small portion removed from the tumour showed it to be a mixed-celled sarcoma. Mr. Edwards remarked on the rare nature of the case, for he had been able to find no reports of a similar one, although Dr. Ball in his work on the "Rectum and Anus" describes two cases of sarcoma of the anus, for the microscopical account of which he was indebted to our secretary, Dr. Abraham.

Mr. Samuel Benton remarked that he had examined the patient's rectum, which is healthy, and not involved in the disease. The growth appears to be connected with the skin behind the anus, and does not implicate the sacrum. The patient states he has not had syphilis, but remembers a fall on the side of a water-jug about six years ago. The operation which Mr. Edwards suggests will doubtless give the patient great relief.

Dr. Abraham mentioned a specimen of sarcoma of the anus very like the present case which he formerly had under his care in the Museum of the Royal College of Surgeons, Ireland. In that instance, as far as he remembered, there were sarcomatous nodules in the rectum as well. This case and two others which he had microscopically examined are alluded to in Mr. Ball's work on diseases of the rectum.

Mr. Edwards, in reply, said it had probably commenced as a benign growth; *e.g.*, a papilloma or granuloma, and had

only recently taken on a malignant action. He intended to remove the growth at an early date.

Dr. Campbell Pope showed a patient, W. C., æt. 43, a commercial traveller, who had excellent health until 37 years of age, when for some weeks he complained of giddiness which was attributed to railway travelling, and he was advised to use an air-cushion on his journeys. Always of an active mind, but always slept well. Father died of consumption, an uncle and brother also, at age of 32. Mother's family healthy; mother alive. Had scarlet fever as a boy, and had an abscess in the neck. Always steady, and nearly always an abstainer. Soon after the attack of giddiness mentioned had slight eczema. Present illness :—Complained of a sensation of cold down the right side of the head and face about three months ago, and that side was extremely sensitive to cold. He then got a bronchial cough which caused a deep-seated pricking sensation in the face when he coughed. Loss of sensation in those parts ensued, extending down to the clavicle. He could not feel the razor while shaving. On very cold days he began to feel occasionally slight numbness of the arm. Nothing further was felt until January 23rd, 1889, when there was a sudden increase in the numbness of the arm, with great feeling of cold, stiffness of the fingers and muscles of the arm. Alteration in the timbre of the voice occurred half an hour afterwards, the sensation of numbness and stiffness extended to the skin and muscles covering the ribs of the right side. The leg became slightly numb and stiff in the course of a few hours. Back pain was felt over the shoulder, there was loss of power, and inability to control certain movements, especially of the little finger. No hesitation in speech; about a week afterwards there was slight diplopia, and the hearing on the right side became less acute. Writing was very difficult, and the pen would slide out of the fingers, and does so still. The same difficulty is experienced with regard to a violin bow. The right hand is acutely sensitive to heat and cold, the left insensitive to minor or even considerable divergence of temperature. Present condition, April 2, 1889: has no acute pain now, but a numb uneasy feeling in the right side and arm. Sensation is decidedly numbed in the skin over the parts where the uneasy sensation prevails. The muscles of the fingers are slightly more under control; last night the leg dragged slightly in walking after getting tired. The grasp of the two hands is now nearly equal; the left was decidedly stronger. There is

flexor spasm of the third finger of the right hand. Complaining of dyspeptic symptoms. With magneto-electric machine the left hand was not sensitive; in the feet the current was not perceptible. Thermal centre on the cortex cerebri embraces an area at which at same time the motor centres for flexors and rotators of the fore limb and for muscles of hind limb are placed. Eulenberg and Landois.

Dr. Vincent Dickinson thought that the symptoms of the case might be summed up under the name of peripheral multiple neuritis, dependent either on syphilis or alcoholism, to which the man's occupation predisposed. He asked *Dr. Pope* if he were quite satisfied that he was not a malingerer. He thought the lesion too diffuse to be cortical, and thought it should rather be referred to the peripheral nerves, the spasm being due to irritation of the motor nerves, and the abnormal sensations of heat and cold, etc., to the posterior sensory nerves.

Dr. Alderson and *Mr. MacKinlay* also took part in the discussion, and *Dr. Pope* replied.

Mr. Ballance showed a child of 10 months with a large nævus extending over the right half of the forehead and right upper eyelid, which had been treated by electrolysis: a slough had formed, but the child was doing well. Other cases were mentioned, the treatment discussed, and the use of electrolysis in avoiding any scar of a disfiguring character dwelt upon.

Mr. Keetley showed a case of Charcot's disease.

Mr. Bontor showed pathological specimens of an abscess of the pericardium and a ruptured thoracic aneurism.



Ordinary Meeting, Friday, May 3rd, *Dr. Travers*, President, in the chair.

Mr. Rickard W. Lloyd read a case of

PERFORATION OF A GASTRIC ULCER.

At 8.15 on the evening of February 2nd last I was asked by the father of E. M., aged twenty-one years, single, to hasten to his daughter, who, he said, appeared to be "out of her mind." While proceeding to the house, close by, I

questioned him as to the present illness and past medical history of the patient. He told me she was in her usual health until two hours before; that previous to eighteen months ago she had been ill for two years, during which time vomiting after food was the most prominent symptom.

I found her lying on her back in bed very prostrate, her pulse almost imperceptible, pupils medium and equal. She could be slightly roused with difficulty, when her movements, expression, and incoherent remarks pointed to her suffering very great pain in the abdomen, especially the *lower* half. There was a little vomit, with an odour of brandy, in a vessel. Her friends stated the pain commenced in the epigastrium, and she had vomited and retched violently; the retching was continuing.

I cross-questioned her friends as to all she had taken during the day. It appeared the last meal consisted of steak and currant pudding four hours before the sudden seizure with pain. I then gave her a pill containing one grain of opium and one grain of calomel. In the next room I told the father "I had come to the conclusion that some very serious injury had happened to the stomach, or some poison had been taken which had injured the stomach, and was affecting the patient generally; but as she had no symptoms peculiar to any special poison, the case was in all probability one of perforation of an ulcer of the stomach." Immediately after this I was informed that she had been given sixpenny-worth of brandy with water and two shillings' worth "neat," during the two hours before I saw her. This circumstance, it seemed to me, might account for her general condition, and thinking it important to get rid of any brandy that remained in the stomach, I endeavoured to obtain some apomorphia from several chemists to inject hypodermically, but none of them had any, so three-quarters of a tumbler of mustard and water was given, and the same quantity immediately vomited, with no odour of brandy. I then ordered the calomel and opium pill to be repeated every two or three hours if she complained of pain; nothing else to be given. Next morning when I saw her she was still in great pain, but was more sensible; she had had three of the pills altogether.

Her temperature was 98°, and pulse so small and rapid that it could not be counted. I then gave her an enema of yolk of egg, milk, brandy, and liq. opii sed., ℥xx, in all three ounces, which she retained, and allowed small pieces of ice to be sucked, the thirst being extreme. Two hours later the

May 3rd, 1889.

patient was quite clear, and told me she was holding the baby when she suddenly felt a "sharp rushing pain" in the pit of the stomach, and she was immediately faint and sick



THE STOMACH (FROM A PHOTOGRAPH BY DR. S. BONTOR).

when the attack seized her. At this time her pulse was still imperceptible, and I injected 20 minims of ether subcutaneously. Ten minutes later I could just count the pulse, 84.

I gave another nutrient enema, similar to the first, three hours after it, which was at once returned. She died at 6 p.m. that day, twenty-four hours after the seizure with pain.

Post-mortem.—The intestines were scantily covered with flakes of lymph, and the peritoneum lining the abdominal wall was intensely congested. The fluid in the peritoneal cavity appeared to be mixed with fluid escaped from the stomach, which had a perforation on its posterior wall.

Remarks.—I never felt the want of a drug more than I did that of apomorphia for its emetic effect in this case, but I was unable to procure it. Although I considered this patient to be suffering from perforation, I could not account for her general condition quite from that cause alone, and when I heard of the amount of brandy she had taken, mostly “neat,” it occurred to me that the effect of the alcohol might, in a neurotic patient, account for the symptoms; and as perforation, if it existed, would almost certainly be fatal, I somewhat rashly determined to make certain that the stomach was empty. The return of the mustard and water was so sudden, immediate, and complete that I believe the contraction of the stomach prevented the escape of any through the ulcer, if, indeed, this contraction did not prevent it passing as far as the perforation. So that none probably escaped into the peritoneal cavity, fortunately. The pain in the lower part of the abdomen was probably chiefly due to irritation consequent on brandy escaping from the stomach and its gravitation. I confess to having felt strongly the inadequacy of medical treatment while attending the patient, and should certainly not rest until something of an operative nature was done in any future case. Such a case is most likely to be seen first by the general practitioner, whose imperative duty, it seems to me, is either to operate or bring about an operation without any delay. For the nature of the operations already practised in such a case, and their effects, I would refer to a paper in the *Birmingham Medical Review* of April, 1888, by Mr. John W. Taylor, F.R.C.S., on “The Treatment of Perforation due to Gastric Ulcer.”

Mr. Bruce Clarke made some remarks, and quoted a case in which he had advised an operation, and he heard from the surgeon who operated of the great relief the patient experienced, although she died twenty-four hours afterwards.

Dr. Seymour Taylor: The subject of gastric ulcer is one of great interest to me, inasmuch as many cases present them-

selves in the out-patient department which have symptoms closely resembling those of gastric ulcer, but which stop short of the essential symptom of hæmatemesis. The question of gastric ulcer is a wide one. Undoubtedly its frequency is more marked than it formerly was, or, at any rate, our improved powers of diagnosis discover the disease with more facility. And also to our improved diagnosis is probably due the fact that there is a growing tendency nowadays to the greater differentiation of disease or conditions than curative medical science requires. A new symptom is called a fresh disease, a previously undiscovered genus, instead of a variety only; and the time may come when the pendulum will swing the other way, and diseases or conditions will be grouped into fewer headings.

So far as my experience goes, gastric ulcer is an example of what I am contending for. It is not a condition arising suddenly, a creation of a day, or even of a few days. It is the climax of an illness, having for its commencement some well-known, broadly-spread, general, and mostly functional disorders. There is a chain of symptoms which are often trivial and overlooked at first, but which increase in severity till ulceration takes place, and diagnosis is made easy.

There are scores of patients who come to our consulting rooms with the following clinical picture. They are single young women, mostly engaged in shops or in domestic service. They are pallid, breathless, dyspeptic, nearly always constipated. They have amenorrhœa, leucorrhœa, or some other functional disorder of the catamenia. They have a depraved appetite, and very, very often a craving for acid fruits, or vinegar, or condiments; and there is marked tenderness in the epigastrium. This is what I have ventured to call the "pre-ulcerative stage." Finally vomiting becomes urgent, hæmatemesis supervenes, and diagnosis of ulcer is arrived at.

Sir Andrew Clark, in a remarkably able clinical paper which he read before the Medical Society of London in November, 1887, drew attention to anæmia in young women. He pointed out how constipation was a great factor of the disease, and without going so far as to say that all cases of anæmia are those of early gastric ulcer, I submit that many cases of gastric ulcer do commence in a way coinciding entirely with the picture which Sir Andrew Clark sketched, and if the cases do not come under treatment in the early stage, many of them eventually terminate in ulcer.

Nor am I sure that, assuming Sir Andrew's hint of ptomaines being the active cause of anæmia in girls, the same poisons in many individuals do not eventually cause ulceration of stomach. Some, and probably most, cases remain at the stage of anæmia, but I think I have seen others which, neglected, go on to ulceration, and at times perforation.

Further, the comparison is not limited to symptoms only. Patients with these stomach disorders do not get well on iron alone, as Sir Andrew Clarke has insisted. But they do recover if the diet be regulated, if the bowels be made to act, and if a course of alkalies be given, followed by ferruginous tonics.

Dr. Coutts read a paper on

SUBCUTANEOUS RHEUMATIC NODULES.

He considered them and their association with heart disease deserving of more consideration than is usually given to them by practitioners and text-books. Notwithstanding the slight and indefinite nature of rheumatic attacks in children, their consequences are often of the gravest character. Nodules, being of a tangible and definite nature, furnish a much-needed help in a chain of symptoms most frequent in children, but not uncommon in young adults. Possibly a very large number of cases of heart disease were at one time accompanied by rheumatic nodules. Almost every case of nodules is associated with cardiac disease, by his personal experience. This almost invariable association has led to the supposition that masses of the same nature as these nodules may form the basis of lesions of the valves. Brief details of cases lending support to this theory were then narrated. The evanescent nature of these nodules has led to the suggestion of the possible recovery from valvular disease; this the author gave reasons for questioning. Nodules are found in association with ganglion, nodes, erythema, etc. Important aids in the treatment of rheumatism may possibly be derived from the study of nodules. Barlow and Warner's paper on the subject is worthy of all attention.

Dr. Garrod agreed with *Dr. Coutts* in regretting that so little interest is taken in the subject of rheumatic nodules by the profession at large, and in his estimate of their frequency, clinical interest, and importance. He referred to a case described by *Dr. Hillier* some years before the nature of these nodules was recognised, in which they were developed in

large numbers in association with chorea and endocarditis. He had had the opportunity of watching a youth, æt. 17, for several months, in whom many nodules were developed in association with subacute articular rheumatism: no cardiac murmur could ever be detected, but such cases he regarded as very exceptional. He agreed with Dr. Coutts that the disappearance of the nodules was a phenomenon of extreme interest, as suggesting the possibility of the disappearance of endocardial vegetation. He suggested that the question of the diagnostic value of the nodules presented points of great interest, especially in those cases in which they appear associated with chorea, and in scarlatinal rheumatism. He was inclined to believe that these nodules are as pathognomonic of the rheumatic as tophi are of the gouty state.

Dr. H. T. Griffiths then read a paper on

FLOATING KIDNEY,

giving a *résumé* of fourteen cases, in which the average age was 41, twelve of the right kidney, and, with the exception of one unmarried woman, they were all females averaging four and a half confinements. The urine was normal in ten cases, varying from a trace to 1-10th albumen in the rest. The tumour was very mobile in eight, slightly so in six cases. In one case the heart was congenitally displaced. In 50 per cent. of cases no tumour had been noticed before admission into hospital, and in a very small percentage was the relief demanded for the condition of the kidney. After deducing from these cases that there existed in the right side of females a condition of movable kidney which was not gravely dangerous, Dr. Griffiths dwelt on the reasons of the rightsidedness, the differential diagnosis and the treatment, advocating in the latter a properly adjusted pad and support in preference to operation.

Mr. Bruce Clarke, in the course of some remarks, said that in two cases that he had operated upon kidneys on the same day for something else, he found the kidney in each case had a distinct meso-nephron.

Dr. Leith Napier had listened to Dr. Griffiths' concise and excellent paper with pleasure. A few years ago it was a fashionable craze to suffer from "displaced kidney," and consequently the profession heard far more about the condition than its frequency or importance warranted. At one time "floating kidney" was the *asylum ignorantia* of every practi-

tioner who met with a case of indefinite abdominal tumour. With regard to etiology, Dr. Napier did not think that repeated fecundity, by itself, was likely to produce displaced kidney. On anatomical grounds it was difficult to accept the implied theory that the altered position of the kidney was due solely to a loss of *a fronte* abdominal support. Even undue laxity of the abdominal walls and pendulous belly were by no means so likely an explanation as supposed by Landau. The kidney was suspended by its posterior attachments, not supported or pushed back indefinitely by the intestines or abdominal wall. Intra-abdominal pressure, and its relative action on the kidneys, was ill understood. But as a result of post-partum peritonitis, or parametritis, or such-like conditions, there might be possible adhesions between pelvic and abdominal organs, which might indirectly affect the relative location of the kidneys, yet, speaking generally, the causation of displaced kidney was more complex. Indiscriminate operative interference was to be deprecated—operation was rarely indicated. The kidneys were wonderfully tolerant organs. At a recent post-mortem for uterine cancer, one kidney was found cancerous, the other had marked hydro-nephroses; yet no symptoms pointing to uræmia, or other serious kidney condition, existed during life.

Dr. Eccles said that the relation between floating kidney and various nervous phenomena appeared to meet with less attention in this country than it deserved. So strongly was he impressed with the belief in the existence of some visceral disease or displacement as the invariable concomitant and frequent cause of disturbed cardiac rhythm, that in most cases wherein palpitation, abnormal rapidity or extreme slowing of the heart's beat existed, he looked for and found irritation of the solar plexus. Acceleration of the heart's action appeared to be a frequent result of floating kidney, and with this emotional phenomena—sometimes suicidal melancholy—were often present. Four cases of floating kidney associated with rapidity of heart's beat and neurasthenia had come under his care. One very remarkable case of extreme rapidity of the heart's action (one observer having counted 240 beats per minute, with a stop-watch), which had been seen by many leading members of the profession, and had by them been variously diagnosed as Graves' disease, tumour in the medulla, etc., he believed to be due to old-standing floating kidney, on the right side, which he had been able to diagnose after reducing enormous abdo-

minal distension by massage, and which diagnosis was subsequently confirmed by Dr. Brunton and others, who saw the case afterwards. The patient died of exhaustion, and from the history of frequent attacks of palpitation, always associated with pain or peculiar dragging sensations in the right side of the abdomen, he believed that the fatal issue of the case was in a measure due to the unknown existence of floating kidney, whose reposition was undertaken too late. He strongly opposed the indifference with which the existence of floating kidney, when unattended by grave symptoms, was treated, and urged the importance of insisting on reposition and fixation as necessary prophylactic treatment against reflex disturbances leading to fatal results.

Dr. Seymour Taylor was inclined to think that the great prevalence of floating kidney occurring on the right side was probably due to some anatomical influence, but whether it be the greater length of the renal artery on that side, or to the want of attachment of the right kidney to neighbouring viscera as compared with the left, he could not satisfy himself. The frequency of its occurrence in women was possibly due to pregnancy, and a subsequent laxity of belly-walls and other tissues. He also drew attention to the fact that in some of the lower animals, notably sheep, the kidney was always more or less movable, together with its surrounding capsule of suet, and in such animals it did not seem necessary that a true meso-nephron should be present. In association with movable kidney in neurotic patients he drew attention to palpitation and irregular action of the heart, and cited a case in illustration thereof, but in which the floating kidney was discovered by another physician; and he also stated that his attention had now been directed for some years to irregularities of the heart's action in cases of visceral disorder.

Dr. Abraham showed the new local anæsthetic (methyl chloride) and the apparatus for its use.

Methyl chloride has been largely employed for the last two years in Paris—particularly at the Hôpital St. Louis—and elsewhere on the Continent; but its use appears to be very little known in this country. So great is the belief in its efficacy to relieve neuralgic and other pains, that I am told, in certain official departments in Paris, if a sufferer from anything of the kind does not declare himself soon relieved after its application he is set down as a malingerer! However this may be, for local freezing, and for the pro-

duction of localized superficial anæsthesia, it is undoubtedly of some value.

This substance, which has the composition CH_3Cl , is a gas liquefying under pressure, or by a cold of -23°C . It can be kept in liquid form in closed receptacles; and if the liquid be exposed to the air its evaporation is so rapid that, it is said, a reduction of temperature to -55°C . is induced. It was first clinically used by M. Lailler in 1882, and soon afterwards M. De Bove called special attention to it in a paper on the treatment of sciatica by freezing. Its application has been rendered easy and convenient by M. Bailly, by what is called the method of "stypage"; and the apparatus for this purpose, as recently modified, consists of the following parts:

1. A metallic cylinder, or "siphon," to contain the liquefied gas.
2. "Tampons," or porous ovate pads, which can be impregnated with the liquid.
3. An isolating forceps, or "stype," to hold the tampon.
4. A "thermo-isolator," in which a little of the liquid can be kept open to the air for some time.

In practice a tampon of suitable size is fixed in the stype, and then may be pressed against the nozzle of the siphon, the valve of which is opened by turning the screw at the top. The methyl chloride escapes with force, and instantly saturates the porous tampon, which then can be lightly dabbed on the part to be frozen or anæsthetized. It should not be kept pressed on for more than a second or two, or the application repeated after the skin assumes a white or parchment-like appearance. When this has taken place the anæsthesia is complete in the local area, and any superficial operation—cauterization, scraping, scarification, opening an abscess, inserting a trocar, etc.—can be safely practised. Before the anæsthesia has been induced, the sensations experienced (by myself at least) after the application are an evanescent tingling and pricking, almost amounting to pain, and reminding one somewhat of a burn; and an erythematous blush over the spot is at first very apparent. It is important not to keep the tampon in contact with the skin too long, or to allow very much of the stuff to remain on the surface, for the erythema may be followed by vesication and a local superficial gangrene. I have now a scar on my hand of three weeks' duration caused by a careless application.

In cases where the anæsthetic has to be frequently used,

or for a prolonged operation, it is best to let out some of the methyl chloride into the thermo-isolator, and then dip the tampon into it as required. That the liquefied gas should not rapidly evaporate and disappear from the thermo-isolator is very remarkable; the internal tube, E, which holds the liquid, is separated from the outer one by a dry, vacuous space, so that no dew is deposited upon its surface.

The chief advantages of methyl chloride as a local anæsthetic, and of M. Bailly's method in particular, are (1) the completeness of the anæsthesia; (2) the ease with which it can be accurately localized; (3) its comparative safety if used with care; (4) the absence of danger from inflammability; (5) the portability of the apparatus.

One precaution must be borne in mind: the surface of the part must be perfectly dry before the application, or the tampon may freeze on to it, and give rise to more or less destruction of tissue. To avoid this, as recommended by Dr. Feibes, a piece of gutta-percha tissue may be interposed between the tampon and the mucous membrane or other moist tissue upon which its use is indicated.

As a local anodyne, methyl chloride has been successfully employed in acute sciatica, various neuralgias, herpes zoster, lumbago, rheumatism, and many other painful affections. As a rule, one or two applications are said to suffice in those cases in which it is likely to be efficacious.

Mr. Paget and **Mr. Lloyd** showed interesting pathological specimens.



THE CAVENDISH LECTURE.

THE RELATIONS BETWEEN DISEASE AND REGULATING NERVE CENTRES.

BY JAMES ANDREW, M.D. OXON., F.R.C.P.,
Physician to St. Bartholomew's Hospital.

Delivered before the Society, Friday, June 7th, 1889.

παθει ἡάθος.

The choice of a subject for such an occasion as this is no easy matter.

After much hesitation, I determined to lay before you some views—rash speculations, if you like to call them so—which have long interested me as to the influence of certain physiological arrangements on the causation and development of disease, and I do so in the hope that some of you, out of the fulness of your knowledge, will be able to correct or confirm them. The subject also is one which has a direct bearing upon our daily work.

Modern investigations have very largely modified our views as to the causation of diseases. Some diseases which a short while ago were looked upon as intrinsic, diathetic, or constitutional, *e.g.*, tuberculosis, have been shown to be due to a specific exciting cause, and with regard to many others it is certain that, great as must be the difficulties of actually demonstrating their exciting causes, they also will, sooner or later, be proved to be infective, extrinsic.

Again, the so-called predisposing causes, *i.e.*, the modifications of structure, composition, and function, which render the organism susceptible of disease, are in like manner naturally, and to a great extent justly, held to be themselves due to external causes. Thus it comes about that, although we no longer look upon pathological processes as something different in kind from physiological processes, still, so far as causation is concerned, disease is

generally looked upon as something which comes to us from without.

The exciting external cause may be so powerful that the most healthy organism is unable to resist it, or it may be that it must be aided by predisposing causes, *i.e.*, that it can produce no effect unless there exist some bias, some taint, some weakness, which in its turn has been brought about by the agency of external influences.

Thus, in fact, all disease begins mediately or immediately in the environment.

As an abstract proposition this is undeniably true. Both physiological structure and function and pathological structure and function are ultimately due in large measure to the external conditions under which the organism exists; change those conditions, and neither structure nor function would be exactly what they are. Indeed, so far as my present subject is concerned, I have no objection to make to the still stronger statement which you will find on page 332 of Dr. Harry Campbell's recently published learned work upon the causation of disease. "The environment," he says, "is in the last resort the sole cause of disease. This will be clear if we keep before us the formula, Structure and Environment = Disease. If it can be shown that structure is the outcome of structural modifications wrought through the environment, then it becomes obvious that structure + environment or disease is produced by the environment, and by the environment alone."

But it is not true if it be held to imply that the normally healthy body will remain healthy if it do not meet with some special (not necessarily specific) injurious surroundings, that the normal body in a normal environment will remain healthy. The chief exception being that the normal degenerative changes of old age may make our bodies unable to resist certain external influences which in our period of vigour may have been actually beneficial to us, *e.g.*, exposure to cold.

Now, it seems to be worth while to inquire whether this theory of the external origin of diseases may not be, has not been, pushed too far. In opposition to it I shall endeavour to prove that normal physiological action, however perfect, nay, perhaps, because it is perfect and in a normal environment, may be the starting-point, the exciting cause of disease, independently of any directly injurious external factor whatever.

And, again, that physiological action, so far from neutralizing, in many cases aids and intensifies pathological action. In fact, he who wrote,

“ I bring to life, I bring to death ;
I care for nothing, all shall go,”

had at least as true an insight into the workings of nature as those who talk of the *vis medicatrix naturæ*. Were the learned designer of Hygeia himself dictator of that happy city, deaths from disease would still occur within her walls.

In the arrangements of the outer world one cannot fail to notice—as, indeed, man has always done, and has openly recognised by the use of such common phrases as to conquer, to subdue nature—curious imperfection, a perverse inadequacy to human requirements. Nature makes lavish promises of ease and comfort, but if left to herself, rarely, if ever, fulfils them. The woes of him who inhabits the handiwork of the modern jerry-builder must have been more than equalled in the experience of prehistoric cave-man. In one of his novels, “The Toilers of the Sea,” Victor Hugo discourses eloquently upon the evidences in Nature, not of design, but of imperfect execution. Our unfortunate ancestors sought in their caves a refuge from the elements; their distorted bones, and those of their dangerous rivals, the gigantic extinct carnivora, prove to this day that they found them veritable caves of the winds, with a constant but uncontrollable water service. In one chamber Nature supplies the cave-dweller with a perfect bath-room, if only the floor would hold water; in another with a soft bed of moss, which can only be used as a wet pack. Or, again, she constructs the semblance of an easy-chair, in which, from its hardness and inequalities, ease is impossible.

The same perverse inconsequence defaces also some of the very highest of man’s achievements; *summum jus summa injuria* neatly expresses the same fault in the operation of human law which exists in that in the laws of Nature. Surely, the history of civilization, of human progress, is but the tale of man’s efforts, too often fruitless, to remedy the defects of Nature and of his own organization, physical and moral.

Now, these disappointing, these perplexing shortcomings, I had almost said practical jokes, of Nature are found, I believe, in some at least of the physiological arrangements of perfectly healthy living creatures, and here, as elsewhere,

they may, and do, lead to serious results. Before, however, entering on my main argument, it is necessary to define as accurately as I can the precise sense in which certain terms will be employed in it.

What is the meaning of a perfect organ, a perfect organism, of perfection, of health, and of perfect health? Now, if these terms—as they very commonly, though unconsciously, are—be taken to mean ideally perfect, ideal perfection, ideal health, I have propounded, not a paradox, but utter nonsense in stating that the first beginnings of disease may arise in a perfectly healthy organism *without any* external morbid impulse, or even that morbid processes started by external agents may be intensified and rendered fatal to itself by the purely physiological reactions of such an organism.

The ideal of a perfectly healthy organism could not well be less than this, viz., that it is one in which, once arrived at its perfect stature, the waste of tissue consequent upon vital action would be so exactly replaced in kind, quantity, and distribution, that its several parts, and their relations to each other, would remain unaltered, would not undergo the changes which mere lapse of time now brings with it. Such an organism would be proof against all outside injurious influences, short of actual chemical or mechanical violence, and would also be capable of accommodating itself to ranges of climate and of weather far more extensive than any to which our bodies in their present state could be exposed with impunity. Woe betide any pestilent micro-organism which ventured within reach of ideally *perfect* leucocytes. Now, of the existence of such ideal perfection in man or animal we have no knowledge. We call a living being perfect in its kind, or perfectly healthy, when it comes up to the standard determined by anatomy and physiology as a matter of fact. Of organs and organisms, then, in their present known condition, and in that alone, I state that their very perfection, *i.e.*, their conformity to the highest ascertained anatomical and physiological standards, may prove injurious to themselves.

If anyone is even yet disposed to look upon my thesis as absurd, his objection may be, in part at least, removed by an addition which I am now prepared to make to the title of my lecture, which would then stand thus: “On the relation between disease and the regulating nervous centres as a proof of the imperfection of the present stage of man’s development.”

I have limited myself to the consideration of some of the inconveniences resulting from the statutory perfection, if I may use such an expression, of the regulating nerve centres, because to attempt to enumerate and put in evidence all the instances of imperfect execution in the mechanism and dynamics of the human body would require a wealth of knowledge, a keenness of observation, a power of reasoning, and a length of life for which I cannot hope.

Again, in these centres, probably the latest, and perhaps because they are the latest, additions to our framework, we find the most striking instances, the most telling illustrations, of Nature's waywardness, of "her 'prentice hand"—indeed, just that class of facts essential to an argument which I am to-day compelled to treat by illustration rather than by strict induction.

Exception might be taken to the use of the term "nervous centres." It might be said that this involves at least two assumptions which are not yet proven, viz., that regulating mechanisms are "centres," and that they are "nervous." For, thirty-five years ago, Claude Bernard pointed out that in the case of excrementitious products such as urea, and even of substances foreign to the organism, such as iodide of potassium and yellow prussiate of potash, there is, as a rule, some one organ or other specially adapted for their elimination. So long as they are present in small quantities only, they pass out through this channel alone; but if their percentage rises to a certain figure as a consequence either of increased production or of a larger quantity being introduced from without, and especially if, at the same time, their natural exit be in any way interfered with, then with each successive rise in their percentage other organs, either of excretion or even of secretion, join in the task of removing them from the blood, and themselves suffer more or less severely in the process. Now, all this might be done without any nearer approach to a nervous centre than is to be found in the common gas apparatus for maintaining fluids, or an air chamber at a given temperature in spite of external variations. It cannot be denied that the regulation of temperature, or of intra-vascular pressure, or of the composition of the fluids of the living body, might be effected in some such automatic fashion; but, in point of fact, we now know that it is not so, at any rate in the majority of cases.

Granted, however, that this "overflow" theory were true,

my thesis would undoubtedly be furnished with yet stronger proofs than it has at present ; for, judging from the result of the possible application of this method, *e.g.*, in the case of urea, its practical working would seem to be less satisfactory than even that of “nervous centres.”

The difference between the rudest canoe of the lowest savage capable of making one at all and a modern war-ship is not so great as that between the lowest forms of life and ourselves. With each differentiation of function, with each advance in structural development, regulating centres become more and more necessary, and, like the parts which they have to control, like the balance which they have to maintain, become more and more complicated.

Their action is required by the ever-multiplying needs of the organism in two directions, easy enough to distinguish in idea, but very difficult to separate by any hard and fast line. On the one hand, they have to co-ordinate the action of highly complex groupings of muscles, so that each individual muscle may contribute its exact quota to the required result, *i.e.*, to a movement of given force, velocity, direction, and extent.

On the other hand, they have to maintain, and that in some respects within very narrow limits, the “internal climate,” *i.e.*, the temperature, the pressure, the relations chemical and physical of gases, fluids, and solids, essential to the activity, and even to the life, of the sharply differentiated tissues. And this internal climate, be it remembered, is affected more or less by every act of the organism, and by every external impulse to which it is subjected.

The consequences of failure in this duty are sometimes directly fatal, *e.g.*, the death, more or less sudden, which often follows upon shock to the nervous system. Its performance requires the harmonious co-operation of striped and unstriped muscles, and also of processes of nutrition, secretion, and of excretion. Thus, the connection of the regulating centres with the different parts of the organism through both afferent and efferent nerves must be most intimate, most complex ; and to this very complexity we shall see that some of their chief imperfections are owing.

The scope of my present undertaking requires me to pass on one side all cases of disordered function which are clearly preceded by organic changes, due to disease in the nervous centres themselves, whatever the starting-point of these changes may be, *i.e.*, defects in quality or quantity of blood

supply, or processes of inflammation and dégénération, acute or chronic, or pressure by new growths, or by effusions, etc. My argument must rest on these cases only when it is certain, or at least highly probable, that injury to the organism, more or less severe, begins in the normal action, within physiological limits, of central mechanisms.

From one point of view, which I have ventured to suggest—viz., that of incomplete evolution—it is interesting to observe the great comparative frequency with which defects occur in the central mechanism necessary for the production of articulate speech, one of the latest, if not the last, acquired of human faculties.

It would seem as if a sufficient number of years or generations had not yet passed for its complete evolution, for its full establishment as a definite factor in our nervous system. In a large number of instances stammering is not even hereditary; it presents itself rather as a “reversion” on the part of individuals of the species than as a result of special acquired tendencies on the part of their parents. It has been compared to scriveners’ palsy, but from my present point of view, I venture to think unjustly so, for the clinical history of the two affections is, as a rule, very different.

The latter is associated with overwork of certain groups of muscles and of certain co-ordinating nervous centres, with much greater frequency than is the case with stammering, at any rate when this begins early in life; and further evidences of organic change in nerves if not in muscles, such as pain and tenderness of nerve trunks, are common in the palsy, unknown or very rare in stammering. The term “functional impotence” may be loosely applied to both; but in stammering the impotence would seem to be often the result of insufficient development, in writers’ cramp it follows upon over-fatigue.

Many of you will remember the short chapter in Sir James Paget’s “Clinical Lectures and Essays” when he compares speech-stammering with functional discord of the muscles which take part in micturition, deglutition, and defæcation. In connection with all these, difficulties from time to time occur, apparently from imperfect co-ordination without anything being present which can rightly be called disease, but the result of this imperfect co-ordination is sometimes death.

Again, the watchful irritability of the larynx and the ready action of the mechanism by which it is closed against the

passage of foreign bodies is, beyond doubt, of the greatest importance to our well-being. There is no need before this audience to dilate upon the necessity for such a safeguard to the lungs. But this same apparatus is not unfrequently called into equally effective action under circumstances which render such action dangerous in the highest degree. None of you, I trust, will ever feel the very disagreeable series of sensations which attends the passage of a foreign body even of moderate size through the larynx. That experience happened to myself some three years ago, and I have not yet forgotten it. What struck me most at the time and since was the intense spasm excited by the irritation below the glottis, such spasm being, of course, worse than useless, and serving only to render the removal of the cause of the irritation extremely difficult. Then and there I came to the conclusion that the controlling centre of the laryngeal movements was, in my own case at least, sadly wanting in discrimination, and that it would be greatly improved were its arrangements so far modified that irritation in the lower part of the larynx should lead to widening, and not to narrowing, of the passage. It seemed to me that only by a great effort was I able to prevent the complete closure of the glottis, and that in doing this I was controlling, indeed reversing, the course which Nature, left to herself, would have followed—not to my advantage. In some cases of disease it is of great importance to recognise this misplaced irritability of the larynx. In young children suffering from bronchitis, laryngeal spasm is sometimes almost as severe as in membranous laryngitis, and I have seen great relief follow the performance of tracheotomy. It may be said that in these cases there is acute laryngitis as well as bronchitis, and that the former is the cause of the spasm.

This may be true in some, but is certainly not true in all. Granted, however, that it were so, it seems to me that reflex spasmodic closure of a passage necessary to life, which has already been dangerously narrowed by the swollen state of its mucous membrane, is not an ideally perfect arrangement, and yet the more acute the sensibility of the parts, the nearer the nervous mechanism approaches the existing physiological standard, and the more readily it reacts to its natural stimulus, the more certainly is this brought about. I think it can scarcely be denied that if the sensory relations of the laryngeal mechanism were less extensive, if spasm of the glottis were not induced by irritation below as well as above the rima,

we might still enjoy the benefits of the present arrangement, and yet escape some of its inconveniences and dangers.

It might be objected that if this were the case we should not be able to cough, that, in fact, this irritability of the larynx below the glottis, and probably of the bronchi, and even of the air vesicles, does not prevent, but aids, the expulsion of foreign bodies or of harmful excretions, which may have found their way into them. But, surely, in this objection, the fact is ignored that coughing can be performed most perfectly by a simple exertion of the will, and without the stimulus of any local irritation whatever. For my own part I have no objection to coughing being done away with altogether, but what happened to myself when that ginger lozenge went the wrong way was this. The larynx promptly took the first step necessary in coughing, namely, contraction of the rima glottidis, but showed no intention of taking the further and, as it seemed to me, still more necessary step of suddenly throwing it open.

My instinctive wish at the time was, not to cough, but to inspire, and that was made all but impossible by the persistent spasm. Success depended upon my overcoming the obstinate resistance of the larynx to the entry even of the air, without which coughing was quite out of the question. In the same way the difficulty with children suffering from bronchitis is primarily one not of expiration, but of inspiration, for it is this latter which becomes stridulous, and during it the lower lateral regions and the soft parts of the thoracic walls recede, and cease to do so when the trachea has been opened. In point of fact, forcible and very effective expulsive efforts are quite possible without any preliminary closure of the glottis, that is, without any cough properly so called; and of this everyone can convince himself by making a sudden violent expiratory effort in the course of an ordinary expiration. Minute observation of a few bronchitic patients will convince anyone that this manœuvre is often resorted to by them, and succeeds in expelling mucus when ordinary cough has failed to do so.

Sir Benjamin Brodie in his account of the famous case of Mr. Brunel (Works, vol. iii., p. 532) lays great stress upon the difficulty placed by the spasm of the larynx in the way of the expulsion of heavy foreign bodies from the trachea, and advises tracheotomy not only as providing an additional outlet, but also as a means of relaxing the spasmodic stricture of the rima glottidis. It might almost seem as if this no

longer takes place when it has been rendered harmless. To quote Sir Benjamin's own words, "We made an opening some few days afterwards below the thyroid gland, but the half-sovereign was not coughed up as a cherry-stone would have been, because it was too heavy. We made some attempts to use the forceps, but found it so dangerous that we desisted. When he had recovered from the effects of this operation—in the meantime passing a probe every now and then—we again placed him on a movable platform, his back was struck with the hand, and the half-sovereign escaped from the bronchus. He could feel it rolling along the trachea, till it came to the glottis, and now, instead of sticking there, it passed through, just as you could roll it through the dead body, and came out of the mouth. There was no spasm of the glottis, and the absence of it was attributed to the opening in the trachea, for blood came out with the half-sovereign, which had evidently passed in from the external wound, and where blood went you will be sure that the air went in also. I apprehend the rule to be this: In all cases where a foreign body has got into the trachea, you must not trust to nature, but make an opening into the trachea, and then it is very likely that if the body be light, it will be forced through the opening; or if, by its own weight, it can be made to assume a certain position, it will pass out through the glottis." To this I would add once more that accumulations of mucus below the rima are also not unfrequently the cause of laryngeal spasm.

We are provided not only with the means, more or less satisfactory, of driving foreign bodies out through the larynx by a blast of air, but nature has also enabled us in the case of minute particles of matter, according to their character, sometimes to dissolve, sometimes to wash them out by flushing the air-passages with a profuse secretion of thin watery mucus. Just as lachrymation is excited by chemical or mechanical irritation of the conjunctiva, so also similar causes, acting upon the tracheal or the pulmonary mucous membrane, produce a similar effect, viz., bronchorrhœa, and here, too, imperfect arrangements of the same kind as those which we have just been considering, allow the mechanism to be set to work in such a way and under such conditions as to lead to results which, if less dangerous than spasms of the glottis, are yet highly inconvenient—*e.g.*, I have seen profuse bronchorrhœa kept up for two or three days by the lodgment of about two-thirds of the shell of a hazel nut in

the right bronchus of a girl, 13 years old, who did not even know that it had passed through the larynx. Here the offending body was insoluble, and could only have been washed out by an amount of liquid which would have rendered the patient's respiration, to say the least, difficult, as indeed it was. As soon as the shell was expelled through the larynx the watery secretion ceased. I do not wish to lay too much stress upon this case; the fluid may have aided in the removal of a foreign body so light as this one was, although, if it were so, the process was a clumsy one, took a long time to effect the object in view, and exposed the patient to dire discomfort and to no small danger. When, however, the flushing apparatus is set to work by irritation external to the air-passages, it is difficult to believe that it does not do more harm than good. Now, I have seen this happen in the case of small aneurisms pressing upon the root of the left lung, where the constant cough and the restlessness produced by the consequent dyspnœa, materially, in my belief, shortened the patient's life.

Here, too, as in the case of the laryngeal movements, the imperfection of the action of the regulating centre, and its disagreeable results, are due to its afferent nerves being distributed more widely than its efferent nerves.

At any rate, one and the same physiological action, if not the sole, is far away the most prominent result of irritation conveyed from tissues so different from each other in site, structure and function as is the mucous membrane of the bronchi from their outer wall and from the neighbouring parts. The development of the centre on the motor side has not kept pace with that on the sensory side. Impulses reach it, starting from widely separated points, and differing not less widely in meaning, yet to each and all of these it can give, and does give, but one and the same response. It might be roughly compared to an imperfectly organized postal service which collects more letters than it can deliver correctly.

The ground covered by my subject is so large that I ought not to occupy any more of the short time at our disposal by further details of imperfections in the working of the regulating centres connected with the great function of respiration. Nor shall I do so except by stating briefly and dogmatically certain points relating to spasmodic asthma. In an hereditary case there may be no history, no sign or symptom of disease other than the phenomena of the

asthmatic attacks; and these are not, strictly speaking, pathological. The asthmatic paroxysm is a physiological act which, under certain conditions, and within certain limits, is most salutary to the organism. The centre from which it proceeds supplements the office of the larynx in guarding the lungs from harmful influences. It commands an inner line of sentries, so to speak, by which noxious gases, and perhaps minute foreign bodies, which have passed the larynx, may yet be prevented from reaching the air vesicles. Whether this be done by contraction of the muscular elements in the walls of the bronchi or by œdema of their mucous membrane makes no difference to my argument. Of course I do not assert that the nervous system of an asthmatic conforms in all respects to the normal type, but it often differs from that type, not in being the seat of pathological changes in the ordinary sense of the word, but in virtue of under, if not indeed of over, development. For the mechanism, if looked at from the afferent side, is too perfect, too sensitive, whilst in the efferent side it is deficient in the very necessary power of relaxing in due time the spasm which it has determined. The slightest stimuli, nay, even an idea, suffice to rouse it into strenuous action, action more injurious by its pertinacity than the danger, if it be a danger, against which it was directed, and the frequent repetition of which too often brings about at last fatal changes in the heart and lungs. Again, like the other centres we have mentioned, its sensory connections are too wide. It receives impressions from the stomach, from the pelvic organs, from the blood vessels—indeed, from almost every part of the body; and to all it gives but one answer—a fit of asthma.

My next illustration is taken from the operation of the thermotaxic centre. What are rigors? How are they produced? Do they influence for good or for evil the course and issue of the many serious diseases in which they figure among the earliest and most prominent symptoms? I have put the last of these questions to several of my friends, and when an answer was given (I did not always succeed in getting an answer), it rarely amounted to more than this, that the violence and duration of initial rigors are of great value in prognosis. This does not, however, carry us very far, and although perhaps, from the *vis medicatrix naturæ* standpoint, it is not the worst answer which might be given, still, it is a curiosity in teleology which

might well be bracketed with the ingenious suggestion that the development of certain species of tape-worm is the final cause of the existence of man. There is, indeed, another answer, a very old one, which it is necessary to discuss, if for no other reason, than for this, that it was endorsed by Dr. Hilton Fagge (*"Principles and Practice of Medicine,"* vol. i., p. 40).

Given, it is said, a case of fever, then the high temperature which rigors aid in producing, is of essential service to the patient by removing in some way or other the cause of the fever, whatever it may be; burning it off, in fact. Dr. Fagge points out that the discovery of micro-organisms as the exciting and sustaining cause of many febrile diseases has made it easier to understand how this may be accomplished.

Briefly, the high temperature sterilizes the blood and tissues just as it does the tube and its contents in the physiological laboratory. Now, I am quite ready to give full weight to this theory, because I know that "hyperpyrexia" when it occurs in rheumatic fever does seem to cut short that disease. Certainly in the cases which I have myself seen, the patients who recovered from the hyperpyrexia were, at its close, entirely free from the well-marked rheumatic symptoms under which they had laboured when it began. Both the joint affection and the fever had disappeared, returning only slightly, if at all, and visceral inflammation rapidly subsided.

I am constrained to believe that in some way or other the disease was cured by the high temperature, or by something closely connected with it. But this single fact, and I know no other like it, is a very slight foundation for the assertion that ordinary febrile temperatures, whether with the rigors or at any other period, have a beneficial, not to say curative, effect upon the patients. Clinical observers are all but unanimous in asserting the contrary.

Surely cases of ague, of relapsing, or of typhoid fever, which have the highest temperature during their first paroxysm, are not, as a rule, those least liable to relapses, or the most likely to come to an early and favourable termination. I know of no observations to prove that in the majority of infective febrile diseases, when once started, the parasites concerned in them can be destroyed by a degree of heat which is not at the same time all but fatal to their hosts. The advocates of antipyrin and of cold baths seem to think that micro-organisms and their effects are best combated

and rendered harmless by a low temperature. They probably perish from the effects of their own activity, partly by using up the material necessary for their subsistence, partly by producing some poison fatal to themselves.

Now, some recent observations of Brown-Sequard's (*Acad. des Scien., Compt. Rend., Nov. 28th, 1887, Jan. 9th, Jan. 16th, 1888*) go to prove that the air expired by perfectly healthy men contains a most virulent poison (luckily for us in very small quantity) distinct from the hitherto recognised products of respiration. Thus, I may be allowed to remark incidentally, it would seem that in the lowest organisms, as in the highest, normal physiological action may lead to death. What the effect of rigors may be upon the febrile disorders, in connection with which they occur, can be determined only by an appeal to facts. The typical form of rigors is that which follows exposure to cold. Here the contraction of the skin and of the superficial vessels checks the loss of heat which would otherwise take place, whilst the accumulation of blood in the deeper lying vessels, and in the viscera, leads to increased production of heat. Thus, *e.g.*, the ultimate effect upon a healthy subject of a cold bath is not a fall, but a slight rise of temperature. Under these conditions rigors are one of the means by which the thermotaxic centre meets an increased demand for heat, and does so successfully, thus rendering most valuable service to the organism.

But the conditions under which rigors occur in disease are totally different, and so, too, must be their effect. Instead of a slight fall, they are now preceded by a rise of temperature which may be considerable. The body heat, already excessive, ought to be lowered, not raised, and yet, thanks to the thermotaxic centre, an attack of rigors supervenes, the tendency of which at such a time must be to do harm. It is sometimes urged that the sweating stage, which generally follows, lowers the temperature, and that it is a reaction from the rigors which thus form, at any rate, a part, perhaps a necessary part, of a process which on the whole is a beneficial one, whatever their effect might be if they stood alone. But sweating often takes place without any precedent rigors, and would surely be more efficacious for good if it did so here. It may well be doubted whether the part played by the rigors in bringing about the sweating stage does more than counterbalance the mischief they have previously wrought, if indeed it does so much.

Why rigors should occur with a rising temperature in

disease, and with a falling temperature in health, is a puzzling question which has hitherto been answered only on theoretical grounds. But it is clear that the stimulus which calls the centre into action is not always the same, it may be that a difference of temperature between the superficial and the internal parts of the body, the former being the cooler of the two, and not any absolute temperature of either, is the stimulus, or rather one of the stimuli, to which it responds.

Or in infective disease it may be that some poison acts upon the centre, either directly, or through commencing blood change, or even through local irritation in peripheral parts. Anyhow, remembering the many and various stimuli, such as external cold, abscesses in any region of the body, the use of a catheter, the passage of a gall-stone, or thrombosis in a vein, to all and each of which an attack of rigors can scarcely be an equally suitable response, I hold that we have here yet another instance of a centre labouring under the same infirmity as those of respiration do, viz.: that its afferent nerves are too many, or its efferent nerves are too few. In other words, it is, as yet, but imperfectly organized. The practical conclusion to be drawn from these facts is one which, in spite of the *vis medicatrix* theory, has always recommended itself to the feelings of the sick, and to the common sense of their attendants, viz.: that rigors in disease are injurious, as well as extremely disagreeable, and as they cannot be prevented, ought certainly to be cut short as speedily as possible.

The mechanism which adjusts to the wants of the organism the quantity of fluid contained in it, and which I venture to call briefly the hydrotaxic centre, furnishes an illustration that the very perfection, I mean of course the statutory perfection, of a physiological arrangement, may lead to inconvenience, and even danger. The centre attains its object by co-ordinating the functional activities, as inlets and as outlets, of the skin, lungs, kidneys, and alimentary canal. It receives sensory impressions of two kinds, of these the one arises from a deficiency of fluid in the body, and of this we become conscious and call it thirst; the other is connected with the presence of fluid in excess, of this we are not conscious, or only dimly so, but it serves as the stimulus to provoke the excretion of fluid by the skin, kidneys, and other channels. It seems probable that both these sensories may originate in any part of the body, so that the connections of this centre too are very wide.

Now, the excellence of a mechanism working on these lines for such an object, would consist, on the one hand, in its sensitiveness to any excess or deficiency of fluid, and on the other, in its readiness to restore the normal state of things by imbibition or by excretion as the case may require.

In 1887 Fr. Kraus published, in Prague, the results of two sets of observations carried out with great care, and as far as possible under similar conditions, one upon a youth, æt. 17, suffering from diabetes insipidus, or rather polyuria; the other, a control series, upon a healthy man. After being kept for some hours without any liquid, they each took the same quantity of water, and the amount of urine passed by each during several hours was ascertained.

In two of the observations they took three litres of fluid at once, in three observations they took half a litre every hour. In the first case, during the first few hours, the quantity of urine rose much more rapidly in the diabetic than in the healthy man; then, however, it fell rapidly, so that the quantity passed by each, during the whole period of sixteen hours, was about the same. Kraus' conclusions are that the diabetic passes a larger quantity of urine in a given time than the healthy man only when his system is saturated with liquid. He gets rid of the excess quicker, but, if the quantity excreted is not at once replaced, he does not on the whole pass more. He ought to be called "tachyuric," from the rapidity with which he excretes any excess, but he is not polyuric. If the fluid excreted is at once replaced by an equal quantity, he may be said to be relatively polyuric, he becomes absolutely so if he indulges his thirst and drinks large quantities of fluid. It is true that the diabetes insipidus in the subject of Kraus' experimental observations began after an epileptic fit, so that there was probably some antecedent organic change as its cause, and thus the case lies outside the limits which I have laid down for myself to-day; but it is difficult to believe that some pathological change exists in all polyurics from the very first. With the help of Kraus' experience, it is easy to understand how a hydrotaxic centre, highly sensitive, and reacting readily to the impressions it receives, may produce a state of polydipsia and polyuria, which, if not in itself dangerous, is yet extremely inconvenient, and frequently ends in serious disease. And this may happen although at first its functional activity does not exceed the mean physiological and anatomical standard more than is the case with the special senses and the general cerebral development in many

individuals, who, so far from being pitied as the subjects of disease, are envied by ordinary mortals for their great powers.

It might be said that in this instance the disease clearly starts from the environment, that the quantity of liquid which the polyuric drinks, at first it may be unnecessarily, is the cause of his condition. But this is not the case, although it is true that if there were no liquid within reach there would be no polyuria. The true cause clearly exists, not in the environment, but in the centre itself, which by its sensitiveness and functional activity in certain individuals regulates the amount of fluid with such nicety, that no margin is left for any extraordinary calls upon the activity, or even for the ordinary needs of the organism, which is thus compelled to take in an extra quantity.

With reference to the nervous nature of the hydrotaxic mechanism, it is interesting to note that antipyrin has more influence over diabetes insipidus than, perhaps, any other drug. Its good effect was well shown in the case of an otherwise healthy girl of eleven years old, who was under my care at St. Bartholomew's Hospital a few months ago. After the disease had been checked by restricting the amount of fluid as far as it could be done without disturbing the patient's general health, the use of antipyrin, in doses of 10 to 15 grains three times a day, was followed by a further diminution in the quantity of urine passed, with a rise in its specific gravity, and by great relief to the thirst; at the same time she gained weight.

I wish time had allowed me to enter into similar details as to the relationship of certain motor centres to chorea, and of the vaso-motor centres to the vascular troubles which form so large a part of hysteria. But I must not trespass on your patience longer than may suffice to formulate some conclusions suggested even by the imperfect statement just laid before you. If you cannot as yet accept these conclusions, I venture to submit to your candour that a case for inquiry has been made out, and I ask you to examine them without prejudice.

Looked at from the level of our human life, the regulating nerve centres present defects analogous to those which everyone recognises in the outer world, and in man's own works. Potent for good, they are scarcely less so for evil, and in order to fit them thoroughly for man's service they require to be in some sort "broken in"—if, indeed, that be possible.

These defects admit of being classified under different heads. Sometimes they seem to be caused by insufficient differentiation of structure, as when a large number of afferent nerves are in communication, doubtless through the medium of ganglionic cells, with a far smaller number of efferent nerves. And this is a state of things the existence of which seems to be established by the fact that, certainly in some centres, the most diverse impressions give rise to one and the same reflex act. Sometimes trouble results from the centre being too sensitive, being put in motion too readily by slight stimulus. And yet in both these cases there is often no such change of structure, no such deviation from the normal type, from the anatomical and physiological standard, as can rightly be called disease. Indeed, what from its consequences we call "over-sensitiveness," "over-readiness," is, in itself, a degree of development above the average. And it is this which places the organism at variance with the environment, this which is the first step in the development of disease. Excess of zeal is a troublesome virtue in both physical and social life. Whenever we recognise how largely ordinary physiological action enters into the processes of disease we cease to be surprised at the rapid development of therapeutics during the last twenty-five or thirty years. The ridicule attempted to be cast upon modern methods by those who ask what conclusions can be drawn from the action of a drug upon a healthy dog as to its effect upon a sick man, is seen to have no better foundation than their own ignorance. In the treatment of the sick we have to deal, not with vague unknown conditions, but with physiological reactions, often differing slightly, if at all, from those of the healthy, and at first in degree only. It is no wonder that the results of laboratory work are, if properly controlled, trustworthy and fruitful—that they have placed in our hands such remedies as nitrate of amyl, the salicylates, and strophanthus; that they have given fresh powers and uses to old and well-known drugs.

Without trenching on topics the discussion of which would be out of place here, I trust that you will allow me to repudiate beforehand a possible misinterpretation of the views which I have now submitted to your judgment. It might be said, from opposite sides of the question, and I might have no right to complain of any unfairness on the part of my critic if it is said, that I have brought an indictment against the wisdom and benevolence of the Power

which has fashioned our bodies. If anyone thinks that the facts support such an indictment, he has a perfect right to hold that opinion ; but for my own part I think he would be mistaken. And if the manner in which I have stated the facts with which we have been more immediately concerned this afternoon lends any colour to such a mistake, I at once express my regret. It has been my intention and my endeavour to put forward, not a theological argument, but a statement of facts which it is of great importance to us as medical practitioners to acknowledge, and which at present seem to me to be in some danger of being overlooked or neglected. The exciting cause of man's progress, of the gradual widening of the gap which separates him from the lower animals, has been the necessity laid upon him of overcoming the difficulties placed by the seeming caprice of Nature in the way of his comfort and his desires. I see no reason to doubt that imperfections in his physical organization, such as we have been considering, have also had, and will have, a similar influence upon his development. To both sets of difficulties we may apply the language of the terse Greek proverb which I have placed at the head of this lecture, " Through suffering cometh wisdom."



HENRY CAVENDISH AND HIS CON- TEMPORARIES.

OBSERVATIONS MADE AT THE WEST LONDON MEDICAL
CHIRURGICAL SOCIETY'S MEETING ON THE OCCASION OF
DR. ANDREW'S CAVENDISH LECTURE, 1889, BY J. W. L.
THUDICHUM, M.D.

In the " Biographical Account of John Playfair " (most celebrated as the successful vindicator of the Huttonian theory of the earth, Professor of Natural Philosophy in the University of Edinburgh), prefixed to the edition of his collected works printed in 1822, occurs an interesting extract from a journal which he wrote while on a visit to the metropolis, a visit made in the beginning of 1782, " that he might have an opportunity of seeing what is there most worthy of observation, and of conversing with those men whose names are known in the republic of letters." He

then speaks of his intercourse with Dr. Maskelyne, the Astronomer Royal; with Dr. Horsley, "who talks very seriously of the notion of mind being united to all the parts of matter, and being the cause of motion, of every atom having a soul," etc. He then speaks of the illiberal though learned prelate Warburton, who held that the study of natural philosophy made men atheists or materialists. He visited Greenwich Observatory and greeted the shades of Halley and Bradley; then the British Museum, and saw Solander, who "is indeed a very pleasant man, has lived much in the world, both of literature and of fashion, and has conversed much both with the polite and the savage." Playfair thinks him not profound in mineralogy, from his recommending Linnæus's "History of Fossils," etc. "But one thing for which I admire him is, that he takes an interest in all the sciences, and is not of the number of those naturalists who, while they count the scales of a salmon, or inspect the wings of a butterfly, despise the labours of the moralist, or the astronomer."

Playfair was carried by Dr. Solander to dine with the club of the Royal Society at the Crown and Anchor . . . but little pains were taken to make the company very agreeable to a stranger. The club improved, however, very much on better acquaintance. The visitor was considered a man of some industry, and his "Dissertation on Impossible Quantities" seemed to have made some impression by its apparent depth.

Here he found Mr. Smeaton, the engineer, and M. Aubert, a private gentleman, foremost in astronomy. Of Smeaton we learn that he proved that in the collision of bodies there was a loss of mechanical power; but his contemporaries did not understand him a bit—particularly Cavendish was opposed to his thesis. Smeaton was very embarrassed in his language, and Playfair puts his non-success in scientific argument to that account. Since we know that arrested motion is transformed into heat, we know that Smeaton was correct. We also learn that Smeaton was brought up as a mathematical instrument maker, and became an engineer without any liberal education, as an autodidact. This self-teaching he exhibited best in his experiments on puzzolana, or cement with which he built the Eddystone lighthouse.

Now he describes the man, whose name and achievements we commemorate by this annual lecture:

"Mr. Henry Cavendish is a member also of this meeting.

He is of an awkward appearance, and has certainly not much the look of a man of rank. He speaks likewise with great difficulty and hesitation, and very seldom. But the gleams of genius break often through this unpromising exterior. He never speaks at all but that it is exceedingly to the purpose, and either brings some excellent information, or draws some important conclusion. His knowledge is very extensive and very accurate; most of the members of the Royal Society seem to look up to him as to one possessed of talents confessedly superior; and, indeed, they have reason to do so, for Mr. Cavendish, so far as I (Playfair) could see, is the only one among them who joins together the knowledge of mathematics, chemistry and experimental philosophy."

Further on Playfair says that "chemistry was the rage in London in 1782." He was introduced to a chemical society which met once a fortnight at the Chapter Coffee-house. There he met B. Vaughan, Whitehurst, author of "An Inquiry into the Formation of the Earth," Dr. Keir, Dr. Crawford, and others. The conversation was purely chemical, and based on Bergmann's experiments on iron. At Vaughan's and his father's house, "who were both dissenters," he found all the chief men of that interest assembled: Dr. Price, Priestley, Kippis, Tours, and others. Playfair thinks that as an orthodox Scotchman he was looked upon with contempt or abhorrence. Priestley's conversation had nothing in it very remarkable. At that time Priestley experimented with hydrogen on oxides ("inflammable air on calces"), and believed he had shown that inflammable air was the same thing with phlogiston. Priestley is supposed to make theories as quickly as he abandons them, and, on the whole, neither from his writings nor from his conversation is one much disposed to consider him as a person of first-rate abilities.

It is on this background that Henry Cavendish is put before us in the terms mentioned. His experimental skill and power of thought were appreciated more fully at a later period. He was born at Nice, in 1731, and died in 1810. He repeated Maskelyne's experiments on the density of the earth with lead balls nine inches in diameter, and concluded that it came to five and one third times that of water. Most of his papers were published in the Philosophical Transactions between 1766 and 1792. How he composed and decomposed water and carbonic acid is matter of history, and his theory of water is the very basis of all our chemical physiology, both of animals and plants.

SESSION 1889-90.

PRESIDENT'S INAUGURAL ADDRESS.

THE BEGINNINGS OF DISEASE.

Delivered on Friday, October 4th, at the commencement of the Eighth Session.

BY H. CAMPBELL POPE, M.D. LOND., F.R.C.S.,
President of the Society.

GENTLEMEN,—It seems but as an interval of four or five summers since we first, in our corporate capacity, met in this room under the presidency of Dr. Vinen, by the kind permission of the authorities of the West London Hospital.

But reference to our records assures us that seven long years have passed away since that day, and we have consequently gone through the most trying portion of our infancy, and have now to enter upon a period leading up to adolescence, in which it behoves all of us to see that the promise of our early years is progressing steadfastly towards fulfilment. I feel that in entering upon this second period much honour and great responsibility have been laid upon me, while still a junior in our profession, by your kindness in installing me as the occupant of this chair, for which I most sincerely thank you, and I beg leave to still further trespass upon that kindness by asking you to put down all my shortcomings rather to lack of experience and capacity than to want of devotion to the objects and interests of this growing society.

Our last session was full of interest, and marked by steady progress under the fostering hand of our last President, Dr. Travers, whose ripened judgment, genial manner, sincerity of purpose, and methodical conduct of business have given to his Presidency an enduring title to remembrance. Since our last meeting our pleasant recollections of the vacation are marred by the removal by death from our ranks of one of our members (Mr. Samuel Benton) who took great interest in the society, and enriched its proceedings by papers and contributions to debate.

In opening our session I beg to cordially congratulate the society and its founder, Mr. Keetley, on our continued increase in numbers, and to express the hope that the nature of our work and the varied features of our evenings may attract year by year still greater numbers of earnest students of our art, to our mutual edification and to the extension of our public usefulness.

Gentlemen, it is no slight matter for one engaged in general practice to select from amongst the multitude of subjects which engross his attention any one in which he is so well versed as to justify his addressing upon it such an audience as this, which contains those who have paid special care to almost all the subdivisions of professional knowledge.

But the nature of our labours, whilst not allowing us opportunity to study minutely the diseases of a special organ, gives us this advantage over the specialist, that we are enabled to have an outlook over disease of a much more extended range, that we can often follow the life-history of our patients from the cradle to the grave, that we can see the interdependence of disease, by reason of a wider and more intimate knowledge of family history, and, above all, that we are privileged to witness and take note of those early departures from a healthy standard which constitute the "beginnings of disease." I say privileged because it is in these early stages of various maladies that it is possible not only to afford present relief from them, but often also to indicate their causes with a view to prevention in the future.

In taking, however, this title to my address, no one is more sensible of the insufficiency of a single paper to do justice to such a theme than myself, or of the still greater inadequacy of an ordinary practitioner to speak upon it. However, this much by way of apology should be stated, that we of the rank and file are called upon to treat disease in all its protean forms, that by experience to all of us comes some method of dealing with it, that the opportunities of giving public utterance to the faith that lies within us are few, and that when such opportunity does come to one of our number, it is his duty to examine his line of practice and summarize his views, so that whatever grains of truth they may contain shall not be lost; and, indeed, it is the conviction that much knowledge of inestimable value to mankind is lost by want of system and a ready method of

collating experiences amongst general practitioners which has mainly led me to address you this evening on the "beginnings of disease." Having this object in view, it is necessary to suggest a method by which such knowledge may be made available for scientific purposes, and the germ of such a method I hope presently to bring before you for consideration.

But, previously to so doing, it is necessary to state what is to be understood by "beginnings of disease." Dr. Andrew, in his admirable Cavendish Lecture this year, says, "All disease begins mediately or immediately in the environment," and he proceeds to quote, from Dr. Harry Campbell's learned work upon the "Causation of Disease,"* a still more emphatic statement, namely, "The environment is in the last resort the sole cause of disease," which is followed by a short explanatory statement.

For the purpose, however, which I have in view this evening, it is necessary for me to examine into the causation of disease much more fully on the lines laid down in Dr. Harry Campbell's masterly work on "The Causation of Disease," to which I must express my great indebtedness. This work considers the *general* origin of disease; for our purpose it will be better to consider disease as affecting any individual. The "beginning of disease," then, in any individual may be from the moment when the male and female elements of which he is composed have united together to commence the developmental process. This is what is meant by "beginning" as we consider it to-night. Let us now see what is meant by disease. Disease is a process occurring in a *living* being, or organism, and will so be considered as belonging to *life*. Life in a normal state should be pleasant and easy—that is, not obtrusive on the consciousness; disease or uneasiness shows that something is wrong or abnormal, and may thus be defined as "abnormal life." We must now consider what is life, and then what conditions make it abnormal or subject to disease.

Life is best studied with a view to definition in its simplest form, the simple cell which lives so long as certain interactions take place between it and its surrounding medium or environment.

Life, then, is the result of a series of interactions between an organism and its environment, which interactions may be

* "The Causation of Disease," by Harry Campbell, M.D. Lond. (London: H. K. Lewis, 1889).

normal and orderly, or abnormal and disorderly. In the first case we have normal life, in which the organism and the environment are suited to one another; in the second case, we have abnormal life or disease, in which the organism and its environment are at variance, through the fault of the organism in its structure, or through unsuitability of the environment to the structure of the organism, or through faults in both. Now, the life which we, as medical practitioners, have to study is not so simple as that of the amoeba floating in the drop of water; it is a life of infinitely more complicated structure, consisting not of one cell, but of millions, arranged into specialized organs and tissues, carrying out duties and functions subservient to the life of the whole structure; each cell, and each organ or tissue, having its own special environment, and the whole body or structure surrounded by an environment, complex beyond description and differing for every individual.

But this is not all. Every cell is composed of a protoplasmic material, consisting of untold numbers of atoms compounded into molecules, of molecules formed into structures of infinite variety, agitated by dynamic movements, and exhibiting chemical changes of which at present our knowledge is rudimentary.

How, then, can we best study these interactions of organism and environment? First, by understanding the nature of organism and environment, and then by seeing how these two factors mutually react. Dr. Campbell very conveniently uses symbols—S for the structure of an organism; E for the environment—thus $S + E = \text{life}$.

Let us consider the nature of the environment of an individual, calling it E.

E is of two kinds $\begin{cases} a & \text{Internal cell E.} \\ b & \text{External body E.} \end{cases}$

Internal cell E, which consists of the nutrient plasma which surrounds the cell and feeds it, and has returned to it the excreta. This plasma, then, must be kept pure and fit, both by what goes into it and by the removal of effete matters from it. We must here remember that one set of cells can influence the E of another set, or of the whole body. Thus we have inefficient kidney action allowing nitrogenous excreta to remain in the plasma, injuring the action of other cells, say of the brain, or even poisoning the whole system. Digestive disorder or alcoholic excess will

supply impure plasma. Imperfect respiration, from whatever cause, will give rise to the retention of noxious matters. Exterior violence, great atmospheric changes, microscopic organisms, noxious gases, and many other causes which will readily occur to you, notably the direct influence of the nervous system on secretion, excretion, and body heat, and indirectly through the operations of the mind, can all powerfully affect the production of this plasma, and consequently the cells of which it is the environment.

Darwin divides External body E into organic and inorganic. The organic consists of the community of organized beings by whom we are surrounded. The inorganic consists of the telluric and atmospheric influences, sunlight and exercise. Campbell speaks of the physical and mental environment.

Contrast for one moment the physical and mental environments of a literary man and a dock labourer, and think of the effects of their respective environments on their mental and physical conformation. Diversity of environment tends to make perfect adaptation of structure to it impossible, except several generations are exposed to a more or less similar environment.

The adaptation of an hereditary line to a special environment is best shown in the Bach family,* whose adaptation to their musical surroundings culminated in the production of that great genius, John Sebastian Bach. Veit Bach, a German baker resident in Hungary, was forced by religious persecution to seek a new home in Germany. He settled in a village near Gotha, and played the lute at his mill while his corn was being ground. He had two sons—Hans, who became a musician, and a second son who became a carpet-maker, leaving three sons, all of whom became musicians. Hans Bach had also three sons, organists, the youngest of whom, Heinrich, was highly esteemed as a composer. Heinrich had four sons, musicians, one of whom was the greatest organist of his time. The brother of Hans Bach, Christoph, had three sons, of whom two, John Ambrosius and John Christoph, were twins. The twins were exactly alike, so that their wives had difficulty in distinguishing them, and they resembled each other as much in speech, tastes, and disposition, and in their style of music, as they

* See 'The Life of J. Sebastian Bach,' Houlston and Sons, 1873.

did in outward appearance. When one fell ill, so did the other, and their deaths followed each closely. One of these twins, John Ambrosius, was the father of John Sebastian Bach. At the time when Bach's fame was highest, nearly thirty of his family held posts as organists in Germany, and they met once a year to exercise their talents together. Sir Julius Benedict says, "It would be very difficult, if not quite impossible, nowadays to find a man of the stamp of J. S. Bach free to follow the bent of his genius untrammelled by the continuous troubles and miseries of life." Here we have a history of four generations exposed to one environment, viz., church music, leading up to the production of the greatest genius of his kind, which is as much as to say perfect adaptation to environment. You will pardon this somewhat long example, as it will also serve when speaking of structure. "Given healthy structure, evil can only come through environment."

But it is time to speak of structure. How does it come about? Through the operation of heredity and environment. In sexual heredity the offspring tends to be produced as a *certain mean of structure* of the parental structures, the males tending to one type, the females to another. Now, were heredity untrammelled, the result would be that in a family all the boys would resemble one another, as would also the girls. But the action of environment comes into play; the action of it on the germ and sperm cells is different for each successive child before they come into union at all, and, after they have united and the organism is started on its career, there is the action of environment to be considered both before birth and after. Now, this environment cannot be the same in any two cases, and hence arise "natural variations." What is truly hereditary in the structure of any individual is the result of the combination of the germ and sperm cells at the time of their union. After the union has taken place and development commenced, environment helps in influencing the structure. There will be then two different periods to consider, before and after birth. Before birth, that is, during intra-uterine life, the growing child may be influenced by the mother's blood and by pressure. The mother's blood may be altered in quantity or quality. You will have noticed, as a rule, that a large placenta accompanies a well-developed child, and *vice versâ*; the quantity of blood, then, seems to be important. But how much more so is the quality! How

many diseases commence in intra-uterine life from altered quality ! To take two into notice will enforce this point—syphilis and rheumatism.

Again, external pressure may influence the child in utero, twistings of the cord and pressure at birth. It is difficult to see how the so-called mother's marks can be produced through the mother's blood ; arrests of development can be imagined to occur from external injury, but in all these cases it is far more likely that the initial fault is in the germ or sperm cell, or both, and that the frights and alarms which are generally forthcoming to account for such events are coincidental, and not causal.

Nevertheless, it is not possible to deny absolutely that there is any force capable of acting to produce these results through the medium of the mother's nervous system, and all cases of so-called mother's marks and malformations are worthy of careful study.

And here, before entering upon the action of environment in modifying structure after birth, a most important principle must be attended to, namely, that "*environment is potent in modifying structure in proportion as it acts early in the life of the individual.*" How important, then, to the infant that its environment should be healthy, that it should be supplied with its natural food, the mother's milk, that its respiration should be carried on in pure air and unimpeded by unyielding swathes ; that the minor rhythms of life, sleep, exercise, and the action of the bowels, should be set going, as it were, to keep their regular times.

But I am not about to speak of the management of children, as that involves points of daily practice known to all of such an audience as this, and I am now more concerned with principles ; on one matter only would I, in common with Dr. Campbell, lay great stress—that is, the constant examination of the excreta of the bowels, for intestinal catarrh is the beginning of a legion of diseases. And as growth proceeds, the question of education comes in, for the mental structure is largely determined by this, if wisely directed—in other words, if the mental E is adapted to the mental S, we shall get healthy growth ; if not, we may easily get unhealthy interaction and the beginning of disease. How great is the responsibility of our State educationists in putting all kinds of structures through one mental mill ! Is it not a certainty that disease must begin in a greater or less number of growing organisms so treated ? And the training

of moral sense and will is most important, for as the individual approaches the adult age he may have to choose his own environment, whether he takes up his abode in a crowded city or the open country; whether he contracts habits which will evolve his constitution and his character, or involve them in the dissolution of disease; whether he transmits to posterity, in accordance as his choice is made, an inheritance of weal or woe; whether he, as forming part of the environment of his neighbours, is clearing the moral atmosphere, or imparting to it a poisonous miasma; whether, in short, he is helping in the evolution of his race, or falling under the iron rod of natural selection.

But more must be said of the part which heredity itself takes in forming structure, and time will not allow much to be said upon this tempting theme. It will be remembered that heredity was spoken of just now as producing in the offspring a *certain structural mean*—that is to say, not always an exact structural mean. There will be “pre-potency” of some characteristics of the male or female parents, thus there will be an infinite number of blendings which fall into three groups:

1. Physiological blendings.
2. The blending of the normal with the abnormal.
3. The blending of the abnormal with the abnormal.

This subject is fully discussed in Dr. Campbell's work, and is deserving of minute study.

In these blendings a great variety of diseases take their rise; but, on the other hand, in the case of the union of the normal with the abnormal, the abnormality may be neutralized, and the offspring brought forth free from a disease possessed by one of its parents, being, in fact, a reversion to an ancestral type free from this disease. This, however, could only occur where the disease or peculiarity had been of comparatively recent age, for those characters, as a rule, are neutralized which are of recent growth. The greater the age of a structural peculiarity, the greater its stability.

In like manner the latest acquirements of the parents are the least likely to be transmitted. The progress of disease shows a somewhat similar law; the latest acquired parts are the first to suffer—that is, have the least stability; for instance, the nervous system, the most highly evolved structure, is the first to respond abnormally to mal-environment; and, again, the most recently organized part of the nervous

system is, in insanity, the first to show signs of dissolution—wherefore, as a beginning of insanity, look for some perversion of the moral sense. The law of heredity, then, prepares us to expect like characters to appear in the same sex in the offspring, and generally in the same period of life. But a character hereditarily transmitted may not show itself as an *actuality* in the offspring of opposite sex, but is nevertheless *potentially* present, and may be transmitted through that sex, to appear as an *actuality* again in the original sex.

The phenomena of hæmophilia are evidences of this ; and we may, therefore, in studying the family history of a male patient, find traces of his disease in his maternal grandfather's constitution, and this involves questions of some moment in estimating disease chances in the examination for life insurance, where the "beginnings of disease" are not infrequently brought prominently under our notice. It is impossible in such a paper as this to notice in any adequate manner the phenomena and bearings of this great question, but the main facts of heredity are known to most of us, and therefore I will only further enlarge upon this subject when considering the morbid interactions of structure and environment. To sum up, it is to be remembered that heredity under a similar environment tends to produce individuals whose structure is a certain mean of the structures of their parents, and resembling that of one another, save for difference of sex. The Bach twins, John Ambrosius and John Christoph, were formed under as similar an environment as could be well imagined, and the result has been given above, namely, that they resembled each other not only in outward appearance, but to the utmost reach of their development, as shown in the same musical expression of the immaterial conceptions of their minds. Nature could hardly have given to the world a more perfect sample of the workings of heredity and environment in the causation of structure. Structure is, then, due to heredity mainly, but subject to the modifications of environment both before and after birth.

And now, having grasped the nature of S and E, we are in the position to examine their morbid interactions in the production of disease. Let us revert to the formula " $S + E =$ healthy life," which presupposes that S and E are normal. Unfortunately we have no criterion of the normality of S and E except the result of their interaction. If this result

be painless, happy life, till the organism has finished its rhythm and ceases its interactions because its course is run, then S and E have been normal to one another.

Let S represent a literary man of slight muscular development, and let E represent his accustomed sedentary work and mental surroundings. We will suppose him to have inherited an average structure, and that his immediate surroundings are free from glaring sanitary defects. We shall here get a fairly normal interaction and a fairly healthy life. But place this S (the literary man) in a fresh E, let him take his place in a blacksmith's smithy for a week, and if he has not by the end of that time strained his cardiac valves, or ruptured himself, he has in all probability, from the exposure to great variations of temperature, contracted some catarrh or inflammation. Here $S + E = \text{abnormal life or disease}$. It is, then, best to speak of this as abnormal E, so far as that particular S is concerned; we thus get $S + \text{abnormal E} = \text{disease}$. Similarly, by reversing our example, and putting the blacksmith in the student's library, we might in the same time find him suffering from hæmorrhoids, or exhibiting signs of inhibitory paresis, such as restlessness and the use of unparliamentary language, even if mental alienation had not already occurred. But, on the other hand, these structures are also abnormal to their changed environment—that is to say, S and E are both abnormal the one to the other.

Dr. Campbell sums up these points thus: "If the S is so constituted that healthy vital interaction is impossible under any conditions of E, that S is absolutely and inevitably abnormal; and conversely, if an E is such that no S can respond healthily to it, that E is absolutely and inevitably abnormal.

"But if a set of conditions exist in which the S can act healthily, that S must be regarded as possessing at all events a potential normality; and conversely, if there is a set of conditions to which some individuals are capable of responding healthily, that E is normal to them."

We cannot do better than give attention to these several statements. Is any S so constituted that healthy vital interaction is impossible under any conditions of E? Is there any S absolutely and inevitably abnormal?

In speaking of the cause of structure, it will be remembered that heredity was the most potent factor, and afterwards environment, in direct proportion as it acted early in the life

of the individual. Hence we may expect to find the frailest structures owing their defects to hereditary causes, or the action of environment in intra-uterine or very early post-partum life. Examples of structures so constituted from pure heredity, that healthy vital interaction is impossible, are rare, but are to be found. Those born of parents with advanced phthisis, and children of third and fourth generations of dwellers in the central parts of large cities, or those suffering from malformations in vital organs. More common are those whose defects have arisen before birth from a mal-environment, say from the syphilitic poison, some of whom cannot survive even up till birth, or again, say, those whose hearts are crippled by intra-uterine rheumatism, or those in whom the brain has been so injured during labour that long survival is impossible. And, again, many structures are so ruined during infancy by malnutrition consequent on improper feeding, followed by prolonged diarrhœa, rickets, and resulting nervous diseases, that they are unfitted to exist even in the most favourable environment.

Then we come to consider the inevitably abnormal environment. Some E's are *necessarily fatal*, such as certain poisons and traumatic injuries, starvation and deprivation of oxygen. Apart from these, however, are various environments in which no structure can live healthily, and which by their influence on structure will become *necessarily fatal* in the third or fourth generation of those exposed to them. Such are excessive use of alcohol, residence in the crowded areas of large towns, and exposure to insanitary influences in other ways. Certain occupations are necessarily abnormal, and confinement to close rooms and lack of exercise will soon affect the strongest S.

But it is not to be considered that because a structure responds abnormally to a certain E, it is *impossible* to find an E to which such a structure can respond healthily; and on the other hand, an environment which is abnormal to the many may prove normal to a few. "What is one man's food is another man's poison."

To suit such structures with environments normal to them becomes then a practical task for the physician, and the practical value of the views we have been considering consists in our being able to apply them to our daily work.

Now the symbol S standing for structure, expresses very well the value of S as derived from heredity only, it cannot

express those after-effects of environment on structure, which occur during ante and post partum life, and it is evident that much of the structural proneness to disease is contracted in these periods, and ought to be valued, in considering the interactions of S and E in producing disease. This factor may be expressed by s, and then Ss would represent the structure of an individual as compounded by heredity and environment. $Ss + E = \text{disease}$.

Now, if we wish to make use of this formula in estimating the part which each factor takes in determining disease, we must attach numerical values to them.

Omitting s for the present, that is, the relative proportion of one of the factors of structure to the other, in the consideration of the interaction of S and E, we find, following Dr. Campbell,* that it is convenient to suppose a given disease to be made up of eleven units, and we get a series as follows :

$$a. S_{10} + E ; = 11.$$

$$b. S_9 + E_2 = 11.$$

$$c. S_8 + E_3 = 11.$$

$$d. S_7 + E_4 = 11.$$

$$e. S_6 + E_5 = 11.$$

$$f. S_5 + E_6 = 11.$$

$$g. S_4 + E_7 = 11.$$

$$h. S_3 + E_8 = 11.$$

$$i. S_2 + E_9 = 11.$$

$$j. S_1 + E_{10} = 11.$$

$$k. S_0 + E_{10}$$

a. An individual in whom the disease bursts out spontaneously.

k. An individual in whom the largest quantity of specific pathogenesis is unable to produce the disease.

These are the two extremes of the scale.

Dr. Campbell gives the following illustration of his method: "Let us apply this numerical method to illustrate the share in causation taken by S and E respectively in a particular disease, *e.g.*, insanity. 'It must be borne in mind,' says Maudsley, speaking of the causation of insanity, 'that hereditary predisposition may be of every degree of intensity, so as, on the one hand, to conspire with certain more or less powerful causes, or, on the other hand, to suffice of itself to give rise to insanity, even amidst the most favourable circumstances.' Let us endeavour to give numerical expression to these words of Maudsley. The formula $S_{10} + E$ signifies that, under the most favourable E, the individual will become insane; $S_9 + E$, that, with the greatest conceivable care, the disorder may be averted. . . . It would of course be possible

* "Causation of Disease," pp. 164, 165.

for the disease to be called forth by a more powerful exciting cause, *e.g.*, E_5 ; but in such a case the excess of E (three) is in a manner inoperative. For speaking as we are of the pathogenesis of insanity without any regard to the *intensity* of the morbid action, we cannot get more than 11, since this number represents the full disease.

“No doubt a greater quantity of specific mal- E , *e.g.*, prolonged mal-hygiene, might induce a more intense attack of the disease, but I am not attempting to represent numerically the *intensity* of the disease; I am dealing only with the actual presence or absence thereof, the number 11, or any higher number, denoting the presence of insanity, the numbers below this its absence. It would, perhaps, be possible, however, to somewhat roughly denote in this numerical way the intensity—the *dose*, if we may so put it—of the malady.”

Now, in estimating the part played by structure in these interactions of disease, it is better, if possible, to apportion to small s its value; thus if a structural proclivity be estimated at six, and we consider that four parts are due to heredity, and two to environment, acting on the structure in the past, we may express the equation thus— $S_4s_2 + E_5$ = the causation of the given disease.

There are many subjects in connection with these interactions which I would willingly have alluded to, but the limits of time forbid, and the influences also with regard to disease, of natural selection, sexual selection, and the direct action of environment must be left untouched.

But I fancy some one of my hearers who has been brought up in the modern school of thought is saying, “All this have I known from my youth up,” and the man of practice cogitates how that it will all end in Pulv. Jalapæ Co., Tinct. Ferri, and Cod-liver Oil, and both perhaps are thinking “*cui bono*” are all these theories. Unfortunately the cogitations of our practical friend prove often only too true, and we have to prescribe these remedies where our reason tells us that what is wanted is wholesome food, maternal care, and ocean breezes.

However, there is truth in these theories, and such truth as there is will prevail. Meantime let us consider how they can be turned to practical account by this Society. In a changing population like this, what an immense advantage it would be to us practitioners and to our patients, what an inestimable boon, if when they came to see us for the first

time, they brought a card duly filled in by some qualified practitioner containing particulars of their family history as far as could be obtained; of their own life history, including what diseases they had suffered from and what influences they had been subjected to, and of any idiosyncrasies with regard to drug action or proclivity to fevers. Such details would put us at once *en rapport* with our patient, and much blind groping and feeling of the way would be avoided. I should like this society to lead the way in this matter, and for it to appoint a small committee to draw up a card so arranged that it would show at a glance the structure and the previous environment of a patient. The card should be in the patient's possession, a corresponding card or counterfoil being kept by his medical attendant. These counterfoils would soon, if used by a large number of practitioners, represent an amount of experience which is now almost lost, in that it dies with its possessors. It might in time be worth the while of Government, when it has a Ministry of Public Health, to devote an office to the collation and classification of these facts, and the issue of such cards to the Army and Navy Medical Departments could not fail to bring much valuable information to light. I hope the society will seriously consider this question of appointing a committee to prepare such a scheme; it would, by thoroughly carrying it out, be the first to till, in the interest of science, the fallow and yet fertile field of *general* practice.

And now, as "example is better than precept," let us proceed to examine a case on this basis of structure and environment. We have a young man to advise who is suffering from incipient phthisis; his father died of this disease, but there is no other history of this disease in his family. He is living in London, and his habits are more of the town than the country; but he is well off, and we have *carte blanche* to advise him as we deem best. He has not altogether led a steady life, and he is decidedly getting worse.

Let us consider S first. His father died of phthisis; at what age? At 40. He first showed signs of the disease at 35. Our patient is 25, he is already showing signs; here, then, is considerable hereditary tendency, let us say S_4 ; but he has not been steady, and he has lived much in town, and he begins his disease ten years before his father; his environment has affected his structure to the extent of quite two units. His structure, then, may be represented by $S_4 S_2$, and his equation will be $S_4 S_2 + E_5 = 11$. This is serious,

and matters are growing worse—he must be sent to Davos; that is the thing to do, say all his friends.

This is a radical measure indeed—truly a change of environment. What we are concerned in is, will it suit him? Here is a Londoner living not much above the sea-level, in a damp laden atmosphere and dust; but he loves his London life and he cares not for reading or the dulness of the country. But at Davos he will have tobogganing, and skating, and private theatricals, and books, and the glorious scenery, and the mountain air, say the friends. So he will, but before all he will have to obey the doctor's orders, and we are doubtful if the restraint and the change of life will not do him more harm than good by making him hypochondriacal, for the doctor will not let him *run risks* to amuse himself, and for scenery and books he cares not one jot. And what is his physical condition? and what cases are unfit for high altitudes?

The chief contra-indications are undoubtedly an excitable nervous temperament, which under the stimulating influence of high altitudes gives rise to intense irritability and sleeplessness. Extensive emphysema, pneumothorax, and hydro-pneumothorax. Valvular lesions, present hæmoptysis, high temperature or breaking down of the lung. Well, our patient is sent there, as he presents none of these symptoms in a marked degree, and we have the more confidence in sending him to Davos as one of our own members, Dr. W. R. Huggard, is there practising, and most worthily sustaining the reputation of British Medicine. This is the line of thought which should be followed in working out a case in the manner suggested.

As regards Davos, an excellent paper was written by Dr. Clifford Albutt in the *Lancet*, vol. ii., 1888, page 704; and Dr. Huggard's valuable opinions will be found in the *London Medical Record* for June, 1886. When in Davos this summer, Dr. Huggard told me he considered no small part of the benefit of highly rarefied air was due to its causing increased depth of respiration, calling into play portions of the lungs often unused; this he called 'lung gymnastics.' The journey to Davos is now greatly shortened in time by the extension of the railway from Landquart to Klosters, and the valley is magnificently illuminated at night by the electric light. And here let me clearly indicate what is aimed at by a residence in Davos; it is nothing less than a permanent change of structure by the action of environment;

this takes time, and let no one with a light heart send a patient for this cure who cannot stay until he is cured.

The breaking-up of a home in England, if it is the breadwinner who is affected, and the casting of the whole fortune on the hazard of a single die, is not to be taken without grave reflection; for if the sufferer has to return before his structure is consolidated, he will come home with diminished fortune to begin life again, and with the almost certainty of a relapse through added worry and the action of the old environments.

But our patient, we will suppose, has been 'cured,' and may leave the high altitude; and now comes a question nearly as important as was raised before, Is it safe to send him straight home? I do not think so; to go direct with a newly-organized structure of a lower resisting power from highly rarefied, pure, cold air to the warmer, muggy, smoky atmosphere of London, is a crucial experiment which it is unwise to make. It is better to halt at a lower elevation, say from 2,000 to 2,500 feet above sea-level, and gradually accustom the lungs to the increasing pressure. Patients on leaving Davos not unfrequently suffer from catarrh on reaching the low level, and the danger of this needs no pointing out. Now, as an example of such a halting-place, I would mention Heiden, in the canton of Appenzel, East Switzerland. This village is not difficult of access from the Engadine *viâ* Chur to Rorschach on Lake Constanx, and thence to Heiden by the picturesque Rorschach-Heiden mountain railway. This charming place, situated among the sub-alpine meadows at the foot of the Sentis, 2,645 feet above the level of the sea, surrounded by pine woods, and overlooking Lake Constanx, commands a magnificent panorama across the lake, ranging from the Vorarlberg Alps in Austria on the south-east to Baden on the north-west. Here you meet few English travellers; but the German doctors send many patients to brace them after the courses at Carlsbad, Marienbad, and Kissingen. Through the kindness of one of the local practitioners, Dr. Altherr, I am enabled to furnish the members of the society with some particulars which will enable them to judge of the climate of Heiden, which was highly recommended by Niemeyer and Von Graefe.

Heiden has a sub-alpine climate, with a moderately cool temperature (*sommerfrische*).

The air is aromatic, very pure, rich in ozone, and almost

absolutely free from dust. The mean barometric pressure in summer is 063·5 mm. = 27·25 inches.

The average temperature is, in May, 45·5 Fahr.; June, 57·5; July, 63·8; August, 58·4; September, 53.

The relative moisture is, in May, 90; June, 67; July, 66; August, 66; September, 76. This shows a very dry air. Owing to the open position of the village, a permanent current of air exists without causing harmful draught. Great daily changes of temperature are seldom felt in Heiden, nor does the intense valley wind, felt in the upper Alps, exist there. Therefore the air is in a high degree bracing, and neither tiring nor exciting. The remedies used in Heiden are milk drinking, goat's whey drinking, and bathing and hydrotherapy.

The whey cure is a celebrated old remedy, at one time nearly lost sight of, and then revived.

It is prepared from goat's milk, and is a very easily digestible nourishment. A little casein and albumen are contained in it, and much sugar of milk—53 parts in 1,000; also blood salts, especially those of potash and soda. The whey helps tissue change; the urine is increased in gravity and quantity. The action on the intestinal canal varies with individuals. The secretions of the mucous membranes, especially of the lungs, stomach, and kidneys, are increased. Through this quickening of the tissue changes the constituents of the blood are renewed more rapidly; therefore the blood is improved.

The indications are chronic catarrh of the larynx and bronchial tubes; gastric conditions, accompanied by habitual constipation; congestion of the portal venous system; catarrhal affections of the bladder; hæmorrhoids; chronic Bright's disease; and anæmia of young people.

The contra-indications are hæmophilia, diarrhœa, advanced phthisis, atony of the stomach, universal degeneration of the nervous system.

Since 1886, Heiden has had a high-pressure water supply. The water is very pure and fresh; temperature, 37·5 Fahr. Therefore it has been possible to set up a small but elegant hydropathic establishment, fitted with the newest douches and bathing appliances.

It will be seen from Dr. Altherr's report that Heiden is good for many "disease beginnings." For my own part, I believe that few places are so suitable for the neurasthenic patient as this; the calming effects on the irritable nerves

are great; no fatigue is felt; a fresh walk, without tiring effect, might be taken daily for months; the sanitary arrangements are good, and the British Philistine is unknown. Much of the good effect of the whey cure I believe to be due to the early rising, enforced exercise, and regular habits which its use entails.

It was my original intention to contrast the expected effects on our supposed patient, who was sent to Davos, with the effects which might be anticipated by a sojourn, say, at Hyères, with a sea-side atmosphere of high pressure. Dr. Sawtell, of Costebelle, near Hyères, very kindly supplied me with materials for so doing, but time will not permit, and if my hearers are interested in this subject and method of investigation, they will find their data in a paper written by Dr. Sawtell for *The Illustrated Medical News*, and published by that journal on September 9th, 1889.

We will now suppose our patient, having completed his cure, has left Heiden (where catarrh is almost unknown), and come home. Here, perforce, we must leave the consideration of him.

But, gentlemen, in this we have been only considering the case of one of the elect among sufferers, one so blessed with this world's goods that he could change his surroundings as he was advised. In fact, we have been considering *individual* environment; but what about the *social* environment? what about the thousands who are left in *London and other large cities alone*, deprived of the conditions by which they can retain their health? True it is that the law of evolution will weed them out, and also true that if we patch them up we are interfering with one of Nature's laws, and delaying her operations for the perfecting of her work.

But patch we must, and in so doing we learn more and more of Nature's laws, and by collecting our knowledge and analyzing it we may help to hasten the time when even civilization can be furthered in accordance with those laws, instead of being, as it is now, advancing in direct opposition to them. For what are we doing? Poisoning the atmosphere which should give us bracing life; poisoning the rivers which should be pure to slake our thirst; poisoning our bodies with adulterated food; poisoning our blood with syphilis and drink; starving our minds by veiling Nature's face and hiding from her presence; and as we reap a copious harvest of "disease beginnings" forsooth, we marvel at the cruelty of Nature, and of Nature's God.

A possibility, however, has arisen, now that we are under a new Municipal Government, that some of these evils will be abated. More air and light may be let in to our great towns by carrying large boulevards through our crowded places; the Amines process of sewage treatment gives a chance of purifying our larger rivers; while the Smoke Abatement Act, the Food Adulteration Act, the Contagious Diseases Act (uniformly administered), the encouragement of temperance, and of the knowledge of Nature's work, are all means to effect such changes in our cities, that health and happiness may confidently be looked for where at present disease and misery hold sway. For if environments be not *necessarily fatal*, an ultimate adjustment of S and E may be obtained.

Of one only of these agencies will I speak, as it promises the mitigation of one of our most troublesome environments, the presence of zymotic germs. Zymotic germs form very dangerous environments on account of their variable nature; by this I do not mean their varied nature. Germs are living organisms, and therefore vary according to their own environments; thus epidemics vary largely in severity in different localities, and in the same locality at different times. It is indeed probable that we are more susceptible to germs of disease arising out of our own neighbourhoods. It is a well-known fact that the negro who lives with impunity in his ague swamp is highly susceptible to various fever germs in this country; while, on the other hand, the medical man who might visit unscathed in London fever dens, would be at once laid low on the West Coast of Africa. Zymotic diseases play most havoc when different tribes or nations come into contact for the first time.

A more homely instance will perhaps also give point to this; my own children, who are constantly somewhat exposed to disease germs, have had no zymotic illnesses at home, but have suffered from three different varieties contracted during their annual visit to the sea. The immunity of doctors' families has often been commented on. I think the explanation will be found in the adaptation of S to E. Their structure and environments become normal to one another.

In large cities the sewage always contains more or less disease germs, potential epidemics, and to find means to make sewage innocuous has been one of the aims of sanitarians for many years. This, however, has apparently

been accomplished by the invention of Mr. Wollheim in the "Amines process" of sewage treatment.

A full account of this process will be found in the periodical *Iron*, of September 20th, 1889. The process consists of treating sewage with a mixture of herring brine and lime; herring brine contains trimethylamine and propylamine, and by the action of lime on these a gaseous body is given off, to which the inventor gives the fanciful name of "aminol." This is fatal to germs of all kinds. Neither lime nor herring brine alone will produce this effect. Dr. Klein, who has several times examined the effluent, both from experimental trials at West Ham and Wimbledon, can cultivate no germs from it, and he says, whereas London drinking-water contains 1,525 organisms per cubic centimetre, the effluent contains none.

Not only so, but the sludge undergoes no decomposition, though exposed for weeks to sun and showers.

Our County Council will do well to give this process a thorough trial at Crossness, for by its action we may have restored to us our "silver Thames" and be greatly helped in stamping out zymotic disease.

This question of disease being so largely caused by environment requires ventilation, and will doubtless in time permeate the intelligence of the community, and in this permeation we may largely help, for, as we have seen, one collection of cells can influence the environment of other collections of cells, or even of the whole body, so we as centres in the social organism can duly play our part.

The action of S and E was perceived years ago by that great student of Nature, Victor Hugo, who wrote: "We die undermined as well as stricken down. Let us not weary of repeating it, to think first of all of the outcast and sorrowful multitude, to solace them, to give them air, to enlighten them, to love them, to enlarge their horizon magnificently, to lavish upon them education in all its forms, to offer them the example of labour, never the example of idleness, to diminish the weight of the individual burden by intensifying the idea of the universal object, to limit poverty without hurting wealth, to create vast fields of public and popular activity, to have, like Briareus, a hundred hands to stretch out on all sides to the exhausted and the feeble, to employ the collective power in the great duty of opening workshops for all arms, schools for all aptitudes, and laboratories for all intelligences, to increase

wages, to diminish suffering, to proportion enjoyment to effort and gratification to need—in one word, to evolve from the social structure, for the benefit of those who suffer and those who are ignorant, more light and comfort; this is, let sympathetic souls forget it not, the first of fraternal obligations; this is, let selfish hearts know it, the first of political necessities.”

Gentlemen, in thanking you for the patience with which you have listened to so long an address, I commend to your consideration the project of the cards for use by practitioners of which I spoke before. By bringing a large number of skilled labourers to the tilling of this field, who knows what good things may be in store for us and our descendants?—for remember, “Nature *laughed* when tickled by the hoe.”

EXHIBITION OF SPECIMENS.

Mr. H. Percy Dunn : An exostosis removed from lower end of femur by Mr. Swinford Edwards; extensive pericarditis with thickened pericardium; large hydatid of liver; epithelioma of rectum, with perforation through vaginal wall; intussusception in a child of 8; large extravasation of blood into lateral ventricle; aneurismal dilatation of the arch of the aorta; fibroid of uterus (the uterus laid open transversely).



Ordinary Meeting, Friday, November 1st, H. Campbell Pope, M.D., President, in the chair.

The **President** made a short statement, calling attention to the Medical Defence Union and the proposed formation of a Metropolitan branch at a meeting to take place at the offices of the British Medical Association on November 8th, under the presidency of Mr. Lawson Tait. After giving a short history of the Union, the President explained that the immediate cause of the official notice of the Union by the Society was the fact that by the good offices of the Union a blackmailing action for malpraxis against one of their members had been quashed. Many such cases had already occurred, and had been successfully stopped without expense to members of the Union.

Dr. Mead, of Newmarket, who had been several times attacked, had rendered great service to the Union by organizing county branches.

The Birmingham prosecution of quacks by the Union had established the important fact that by the Medical Act of 1858 penalties are paid to the General Medical Council, and that it is competent for that Council to pay costs out of penalties recovered.

After alluding to the fact that in no case could the Union undertake the defence of persons who were not members at the time when the attack was made upon them, he asked the members if they considered it worth their while, for an annual subscription of ten shillings, to have £1,000 at least at their back, and a competent legal adviser in case of need.

Dr. Thudichum read a paper on

FIBROMATA OF THE NASO-PHARYNGEAL SPACE, THEIR SUCCESSFUL TREATMENT BY NEW METHODS.

Under this definition he included only such tumours as would, if not removed by art, lead to a fatal termination. Mucous polypi of the nose and pharynx were therefore excluded from it. The pernicious nature of fibroma was its most important peculiarity. It caused hæmorrhage, suffocation, and affected the base of the skull. It frequently recurred after apparent extirpation. It occurred only in males below the years of manhood: when it occurred in man it had been extant from adolescence, and became for a time quiescent. The rate of growth was mostly great; it sent branches into most of the cavities of the face, so that its original seat was difficult to ascertain. A prominent symptom was hæmorrhage from the nose, which in several cases had lasted, at intervals, for months, and made the patients anæmic. Obstruction of the nose might be partial or complete. The tumour caused ulceration in the nose, which was the most frequent cause of the hæmorrhage; also absorption of osseous parts, *e.g.*, the hard palate. The adhesions of the mucous surfaces to the surfaces of the fibromata were highly vascular, and supplied the blood for the hæmorrhage, and that flowing so freely during the now antiquated operations. Many operations had been thought out and made for the removal of these tumours; at present tracheotomy was the preliminary, with plugging of the larynx; then the nose was split open and broken aside, and

the tumour attacked; the soft palate was next divided and a passage effected, in the best case; a number of operations were left uncompleted. Of the completed ones a third died quickly; a second third died of consequences, such as pneumonia, septicæmia, etc.; and a third division just escaped, not rarely to be afflicted with a relapse. Wutzer, of Bonn, has had seventeen relapses out of twenty completed cases, the fatal ones not counted. The author next described the application of the electro-cautery to these cases, by which all the evils just mentioned were overcome. The tumour was dissected out, divided, cut out and destroyed; at the same time, the bleeding was prevented or arrested by the electro-cautery, or by the injection, with the aid of a special platinum apparatus, of ferric chloride into the bleeding space. The operation was made through the nose, and only subsidiary aid was rendered by operations through the mouth. Only in a few cases had the meatus to be widened by partial abscission of the lower turbinated bone. The author then described a number of cases treated by his method all of which had recovered; they were from different horizons of society, and were all now useful members of it. Amongst them were cases in which the old operation had been unsuccessfully attempted, and some which had been dismissed as incurable. Such a case, turned away from a London hospital, he had lately restored at the Queen's Jubilee Hospital. A gentleman who had been restored by the operation, now a member of the medical profession, was present at the meeting.

Dr. Woakes remarked on the great difficulty there was in dealing with large tumours which were situated so close to the base of the brain. One of the mishaps which frequently occurred was the breaking of the wire. He thought *Dr. Thudichum* had solved the difficulty.

Dr. Reginald Dudfield read a paper on

THE SANITARY ACTS OF LAST SESSION, ESPECIALLY THE
INFECTIOUS DISEASES (NOTIFICATION) ACT OF 1889.

The Public Health Act (1889), the Horseflesh Act, and the Poor Law Act were very briefly reviewed, and then the Infectious Diseases (Notification) Act taken into consideration. Sketching the outlines of the history of the endeavours made by the local authorities to obtain powers of compulsory notification, the author mentioned that the

Huddersfield Corporation was the first authority to acquire such powers, in 1876. At the time of the passage of the Act last session, fifty-two large provincial towns, with a population of three and a half millions, had compulsory notification. In 1882 the Select Committee of the House of Commons on "Sanitary Regulations" reported very favourably on the subject. Mr. Hastings introduced bills to enforce notification in 1883 and 1888. In London a conference was held in 1881 to urge the Government to introduce a bill to confer compulsory notification on the metropolis. Again, in 1887, a memorial was addressed to the President of the Local Government Board in favour of the same subject, and in the session of 1889 Mr. Ritchie brought in the Act which came into force on the 30th October.

The author then proceeded to consider what might be expected from the provisions of the Act. Attention was drawn to the good results attained at Leicester in warding off, by means of notification and isolation, all extension of small-pox from imported cases. With reference to the word "forthwith," in section 3 of the Act, it was suggested that the Legislature did not demand a hasty diagnosis, but a prompt despatch of the certificate of notification after a diagnosis had been made. Statistics were given, showing that the deaths from measles and whooping-cough together exceeded the total deaths in 1886 and 1887 from the diseases included in the present schedule of the Act. Notification of these two diseases, and isolation, would do much to check the prevalence of the diseases without hospital treatment. The statistics obtained from notification, combined with the death returns, will render it possible to more accurately determine case mortality, effects of age, sex, etc., of the more important infectious diseases. The Act gave sanitary authorities no new powers of interference between patient and doctor, but they (*i.e.*, the authorities) would, of course, take the necessary steps to ensure proper isolation of the sick, and complete disinfection on the termination of the case. The whole system of the present machinery for dealing with infectious disease is a policy of insurance held by the metropolis to cover risks of loss of life and money through infectious preventible disease. The medical profession shares in the advantage of such policy, and should therefore accept without demur the extra work imposed by the Act, the more so when it is remembered that the medical art ought to be preventive as well as curative.

The *President* said he was amazed to see that puerperal fever had been included in the schedule, and thought friction would be likely to arise in questions of that disease. He could honestly say that he could not define what was meant by that term. He would like to know if, according to the wording of the Act, two medical men being called in to a case, both would have to notify. This would have to be decidedly settled.

Dr. Walter Smith approved of the provisions of the Act, and saw no reason for there being any friction between medical men and the sanitary authorities. He hoped all the former would before long be acting as assistant health officers. As to the certificate, it would be necessary to amend it by giving more particulars, as was done at Croydon. Most of the disinfection now carried out in many parishes was quite a sham. He would strongly recommend that super-heated steam should be used, by Goddard and Masage's or Lyons' steam apparatus.

Dr. Alderson thought it was only puerperal cases of a malignant type that would have to be notified. He approved of there being a small fee attached to the notification. It was recognising that the public should pay medical men for what they did, and was a move in the right direction.

Drs. Mallam, Travers, Mackenzie, Lloyd and Ball joined in the discussion.

Dr. T. Orme Dudfield, as a medical officer of health, was gratified by the tone of the discussion. Without presuming to interpret the intentions of the Legislature, he thought that the cases of puerperal fever proper to be notified were those of a communicable nature, often spread by careless midwives, and those due to blood-poisoning resulting from insanitary surroundings of the patient. It surely could not be necessary to report cases of local erysipelas, due to scratches, etc., but such only, often of septic origin, as were attended with marked constitutional symptoms. The principal novelty in the Act was the compulsion to notify. It was hoped that now a larger proportion of cases that could not be isolated at home would be removed to a hospital. No work of a new sort was imposed on the medical officer in his relations with the sick by the Act, but more work of the sort he had been accustomed to perform. His relations with private practitioners would not be different, and he saw no reason why friction should occur in the future.

any more than in the past. A judicious medical officer would not interfere with private patients who were properly isolated. A visit to the infected house would be necessary to ascertain its sanitary condition, and, if possible, to discover the origin of the disorder, for the purpose of record, as heretofore. The services of the sanitary department, especially for disinfection, would be tendered, and there the matter would end. He believed that the Act would be attended with beneficial results in regard to the public health, and he concluded by inviting the co-operation of the members to make it a success.

Dr. Reginald Dudfield then responded.

Mr. Percy Dunn exhibited a specimen of spina bifida.

A series of microscopical specimens illustrative of phthisical conditions of the lungs was exhibited, lent by **Mr. Arthur Townsend**, of Birmingham.

Dr. Abraham exhibited some microscopical sections of psoriasis. He also showed an unusual case of psoriasis.



Ordinary Meeting, Friday, December 6th, the President, **Mr. Campbell Pope, M.D.**, in the chair.

Mr. Bruce Clarke read a paper

ON NINE YEARS' EXPERIENCE OF HIS OPERATIVE PRACTICE
AT THE WEST LONDON HOSPITAL.

He exhibited a table of 296 operations of various kinds, most of them so-called major operations, with a mortality of ten cases, only four of which were to be ascribed to the operation.

The six which, as he explained, died of the disease rather than the operation, included cases of hernia and intestinal obstruction which were practically moribund on admission; whilst the four which died from the operation were a tumour of the bladder, a tumour of the prostate, a nephrolithotomy, and a case of radical cure of hernia.

The table was divided into sixteen sections, beginning with thirty-nine tumours, without a death; then came amputations (eighteen), with two deaths, both due to gangrene—for

which they were performed, and which returned in the stump and terminated their existence some few hours after operation. Twenty-eight cases of opening of joints were recorded, in which all but one recovered with good movement; and some sixty cases in which the peritoneal cavity was explored, in which, if the acute cases before referred to as being moribund on admission were excluded, only one death had taken place, and that was the case of radical cure of hernia.

Amongst other cases of great interest were over a dozen kidney operations, seven lithotrities, and thirteen cases of cystotomy—two large stones from which were exhibited.

A large series of pathological specimens, illustrative of the cases, were exhibited, from the museum of the hospital, by Mr. Dunn.

Mr. Bruce Clarke said, in conclusion, that he recorded in the paper all the cases of operation which had been under his care, except only a few of the slighter cases, and in these no deaths had occurred. Amongst other points to which he drew attention was the fact that in no single instance had he amputated a limb in consequence of joint lesion, acute or chronic. Perhaps nothing revealed so clearly what a vast difference there was between the surgery of to-day and that of five-and-twenty years ago, as the progress that surgery had made in the treatment of joints.

The *President* thought Mr. Bruce Clarke's mortality of three and a half per cent. after operation was a very low one. The paper showed there was a vast amount of material at the West London Hospital, and he hoped in time it would be more like the London Hospital in the East End, and become an important school of medicine.

Mr. Kectley agreed with Mr. Bruce Clarke that excisions of joints were almost as bad as amputations. He was attracted by the mode of incision of the patella, and thought the longitudinal method of incision was the proper one.

Mr. Edwards asked if Mr. Bruce Clarke would recommend restoring the olecranon in cases of fracture. He noticed a large percentage of external urethrotomy (four out of twenty-one). His experience was that it was very rare that a fine bougie could not be passed. He agreed with Mr. Bruce Clarke about importance of washing out bladder, and thought $\frac{1}{6000}$ strong enough.

Dr. Leith Napier.—As regards perineoraphy, in cases

where there had been imperfect cure, air, etc., found their way into the vagina.

Mr. Bruce Clarke said his plan was invariably to refrain from cutting into diseased or strumous joints as far as possible; he was shy of excisions. As regards excision of rectum, he thought he was rather in favour of external urethrotomy in cases of bad stricture. In cases of perineoraphy he generally kept patient's bowels open.

UNUSUAL RECURRENT BLADDER GROWTH.

Mr. Hurry Fenwick showed wax models of growths seen in the bladder of a lady aged 43. The patient had come under the care of Dr. Oldfield, suffering from hæmaturia of two years' duration. On introducing the electric cystoscope a hazel-nut-sized cancerous growth was seen overlapping the mouth of the left ureter, the rest of the bladder being perfectly healthy. A model was made of its appearance. The urethra was dilated and the tumour, which was found to possess a long pedicle, was snared and cut off with scissors: microscopically it proved to be a villous-covered carcinoma. After six months' complete rest, the symptoms recurred, and two months later the cystoscope was introduced to ascertain the amount of growth, which was supposed to have originated in the scar of the previous operation. This scar, however, was seen to be perfectly healthy, and the cause for the bleeding was found to be another tumour on the opposite side of the bladder, behind the right ureteral opening. There were two small satellite splashes of growth in the neighbourhood of the principal tumour. All three were carefully dissected off the bladder wall, and the patient made a good and rapid recovery. The second growth was shown to be *benign*. The unusual features of the case consisted in: (i.) A bladder cancer being pedunculated; (ii.) A bladder which had already developed a cancer, subsequently forming an innocent growth; (iii.) The formation of satellite villous growths in the neighbourhood of the benign tumour. It was contended that this little group of irritative growths demonstrated the existence of some permanent irritation in the bladder.



Ordinary Meeting, Friday, January 3rd, the President, H. Campbell Pope, M.D., in the chair.

Mr. Bertram Thornton (Margate) read a paper on

OPERATIVE VERSUS THERAPEUTIC TREATMENT OF STRUMOUS
CERVICAL GLANDS.

The subject which I have the honour to bring before you this evening is an unromantic and an old-fashioned one. Strumous glands have from time out of mind taxed the ingenuity and patience of all practitioners of medicine, till from sheer weariness doctors and patients have been tempted to despair, and leave the disease to the uncertain action of time and Providence. Perhaps the term "king's evil" was referred by the public, in olden days, more especially to the outward and visible manifestations of scrofula in the neck, rather than to similar diseases of bones and joints, and, if this was the fact, it shows to what a depth of despair our forefathers in the profession were reduced that they had to fall back upon that mysterious "Divinity that doth hedge a king," and trust to the laying on of royal hands to effect a cure after all their own resources had been tried in vain. It may be that this old world attempt at faith-healing eventually proved as unsatisfactory as it sometimes does even in our own times. Perhaps it was then that the peculiar properties of sea-air on strumous affections began first to be appreciated. At any rate, in the year 1791 the fact was sufficiently noteworthy, that in my own native town the first special hospital for this class of disease was established—the Royal Sea-bathing Infirmary, otherwise called the Royal National Hospital for Scrofula, containing now over 200 beds. Since that date, a hundred years ago, thousands of patients suffering from scrofulous diseases of glands have visited Margate and its immediate neighbourhood. As a resident medical officer, and afterwards as surgeon to the Royal Sea-bathing Infirmary, I have had peculiar opportunities of observing the disease of glands from all points of view. It is for this reason that I have ventured to select for this paper the subject of the treatment of strumous glands. I do not propose to discuss the minute pathology of tubercle, but to leave it to those specially trained to this branch of research. It is, perhaps, also unnecessary to define the precise meaning of "strumous" gland. For the purpose of

this paper I would ask to be allowed to include all enlargements of cervical and axillary lymphatic glands not malignant in character. Every surgeon who has made a special study of any subject knows how difficult it is to avoid dogmatism ; I hope I may receive your indulgence if I appear to express my present views with undue partiality.

It will serve no good purpose to go into the *history* of the subject in any detail. Nor do I propose to weary you with statistics, or relate a series of cases. It would be almost impossible to arrange statistics on this particular subject, because the progress of the disease is so different in character and rapidity of development ; yet at the same time most cases bear a strong family likeness. I have had the opportunity of reading the somewhat meagre records of the cases treated in the Royal Sea-bathing Infirmary for nearly fifty years. The chief points of interest appeared to be either the extreme length of the sojourn of the patient in the hospital, or the uncured condition in which he was sent home again. Apart from the climatic advantages of Margate, the treatment appears to have been eminently monotonous, cod-liver oil, iodide of potassium, iron, quinine, arsenic, and the inevitable iodine painting, or linseed-meal poultice.

This treatment was not peculiar to Margate, but up to within the last five or ten years was the one usually adopted in this country, and taught in the schools and text-books. Occasionally, as in most other obstinate diseases, some oversanguine innovator would proclaim a specific ; sulphide of calcium was once credited with the power of "dispersing" whole ranges of indurated glands ; it was tried and found wanting, like most other drugs warranted to cure ; other medicines have also had their brief day and passed into oblivion. I have searched several English text-books to find any other special drug treatment of enlarged glands ; but the line of treatment suggested is almost invariably the same in principle and practice as the one above alluded to, which line is, after all, merely playing the changes on various constitutional tonics, permitting the glands to suppurate, burst through the skin, and heal up again at their leisure. In works on surgery the inquirer will find little or nothing to guide him ; the impression he will get is probably one of masterly inactivity. In a very popular work by a distinguished physician, published in 1879, the writer, in urging the use of sulphide of calcium, relates an imaginary case, and the treatment he would advise. I will quote the passage,

as it illustrates a very common type of case and a prevailing method of treatment: "An unhealthy child from six to twelve months old, perhaps in the course of measles or scarlatina, is the subject of a slight sore throat, which produces, behind the angle of the jaw, considerable enlargement of the glands, and the swelling, of stony hardness, may be large enough to interfere with swallowing, and even to push the head on one side. Very deep suppuration takes place, and for a long time there is neither redness of the skin nor fluctuation, and the pus very slowly makes its way to the surface, so that a fortnight, three weeks, or even a month may elapse before the abscess bursts, or is fit to be opened, when a deep hole is left with considerable indurations around it. So great is the pain and constitutional disturbance that the child sometimes dies; and even if this fatality is averted, the deep discharging hole heals very slowly owing to the indurated and unhealthy state of the adjacent tissues. Now, in such a testing case, if we give a tenth of a grain of sulphide of calcium mixed with a grain of sugar of milk every hour or two the results are most striking. The pain and constitutional disturbance begin to diminish, the swelling becomes smaller, the pus reaches the surface in four or five days, leaving when it is evacuated a benign wound which quickly heals."

There is little doubt that there are many medical men who adopt this expectant treatment, with or without calcium sulphide; a large proportion of mutilated necks that drift down to Margate relate the same history. Another and perhaps larger percentage still have been poulticed for months; their necks are like rabbit warrens, sinuses running in all directions, the skin and subjacent tissues unhealthy and rotten.

During the last few years surgeons have begun to recognise the fact that the surgical laws governing the treatment of the body generally bear with special force on the surgery of the neck, and that it is as important to let out matter as soon as it is formed in this region as it is in a whitlow or ischio-rectal abscess, and that it is as deadly a sin to poultice the one as the other. Possibly the hideous results I have witnessed from poulticing lead me to speak with over-much contempt of the practice, *i.e.*, as a means of dispersing abscesses or bringing them to a head; if from force of circumstance one is ever compelled to use a warm absorbent soothing application, surely we have plenty of medicated absorbent wools to resort to without flying to a mass of

sodden decomposing vegetable matter, which few nurses are competent to make soft and comfortable, which has no claims to cleanliness or sweetness, much less to antisepticity. Up to this point I have briefly described what I have perhaps inaccurately called the "therapeutic" mode of treatment, chiefly in relation to suppurating glands, and I have endeavoured to point out that it is by no means satisfactory. The process appears to me to be unsurgical; the period of treatment may be, and often is, prolonged to years; the expense, trouble, and annoyance to the patient is very great, and the ultimate result is too often a group of ugly scars, irregular, puckered, depressed, or elevated. Moreover, every month the local disease exists adds to the danger of the poison being carried to other parts of the system, and perhaps this last is the most important point of all.

With regard to the treatment of glands that are in an apparently quiescent state there is a greater difference of opinion, and I feel I am treading on more difficult ground. It may simplify matters to mention and put on one side those conditions of glands about which most medical men agree—viz., simple, congestive, or inflammatory swelling, either idiopathic or due to some *temporary* local irritation, such as sore throat, carious tooth, etc. Removal of the cause of irritation is usually enough to allow the enlarged glands to subside without further treatment. If the swelling remains persistent for more than a week or two, an ordinary tonic, or, better still, change of air to the seaside, is as a rule sufficient. Personally I have never seen much good result from mercurial ointments, counter-irritation with iodine, etc., but some surgeons think differently. An evaporating lead lotion is sometimes useful. If the glands after a few weeks of the above treatment refuse to subside, or increase in size, then it is that differences of opinion arise, and different modes of treatment have to be considered. Let us assume that a patient is before us with enlarged glands of, say, two months standing or more. Let us assume that he has no bone or joint disease, or any other tubercular lesion. Let us further assume that every source of local irritation has been removed or cured, such as carious teeth, pediculi, disease of tonsils, buccal, nasal, pharyngeal, naso-pharyngeal mucous membranes, conjunctival disease or otorrhœa, lupus or skin disease; in fact, that we have simply to deal with some form of enlarged glands. Our duty is obviously at first to wait and endeavour by good feeding, stimulants, and change of

air, to improve the patient's health. For some reason certain seaside localities have obtained a reputation greater than others. Many of these places are on the east coast of England, such as Margate, Westgate-on-Sea, Yarmouth, Scarborough, and others. In most of these places the air is very dry and bracing, the soil light and chalky, and the vegetation scanty. In Margate, too, the tide goes down a long way, leaving a large expanse of sand and seaweed. Whether it is the salt or ozone that benefits these tubercular cases so much, or whether it is the dry bracing breezes from the North Sea, it is difficult to tell; probably both conditions assist.

Often I have seen glands that have defied all treatment for several months in London and the provinces yield to the unaided influence of "change to the seaside," without a drop of medicine or any local treatment. It is my impression that this favourable result can only happen in "simple hypertrophy" of glands, but how to distinguish this condition from glands in which tubercle is deposited, or in which caseous degeneration or pus exists, I am not able to point out. Temperature is an untrustworthy guide, for over and over again I have seen cases with a continuous normal temperature in which many of the glands were full of pus. Palpation is equally unsatisfactory, either as regards positive or negative evidence. The only criteria as to permanent enlargement and disablement of glands appear to me to be positive indications of the presence of pus, or the continuous enlargement of any gland or glands for more than six or eight months. The period mentioned must necessarily be arbitrary and elastic; some glands are permanently damaged in as many days; but few cases that have existed without temporary diminution in size for six or eight months ever resume their normal condition, and even if they do not immediately break down, they are a constant source of weakness to a patient, and will probably suppurate at any time when his condition is brought low by illness or want of tone. The surgeon having in due time, and after due consideration, satisfied himself that the glands are permanently diseased, the debatable subject of treatment arises, and on this point the differences of opinion are strong and numerous. First of all, the surgeon must picture to himself the condition of the glands which he sees and feels bulging out the skin of the neck like small potatoes or peas. The two chief varieties are, according to my experience, (1) glands hypertrophied,

hard, pale in colour, with apparently feeble blood supply ; (2) glands of similar appearance, but containing more or less caseous degeneration, or flaky pus, the latter variety being probably an advanced stage of the former. In some cases none of the diseased glands, even though of long-standing, have any caseous degeneration ; in others all, even those as small as a pea, have one or more points of caseation. The condition of the cellular tissue surrounding the glands seems to me to be a point of special diagnostic importance. If there is a history of occasional periods of extra swelling and tenderness of the neck, it frequently means sub-acute cellulitis. The subsequent result of this inflammation is that the cellular tissue is rendered more dense, and the glands are more or less matted together ; the bloodvessels supplying the glands become strangled ; the nutrition of the glands is impaired ; and there is a greater tendency to degeneration and death of the glands involved.

I will assume, for the sake of argument, that the surgeon elects to adopt some form of active treatment on the ground that the dead or diseased glands must in time inevitably come away, and that it is better to choose the most convenient passage of exit rather than to leave it to the slow, uncertain, and probably inconvenient processes of nature.

The list of processes is legion. The most primitive, and, to my way of thinking, the most unsurgical, is disintegration by poultice. One of the most extraordinary cases I ever saw came from the wards of one of the largest London hospitals to the Margate hospital—a strong, hearty young man's neck had been exclusively and continuously poulticed for over six months ; there was a granulating surface, which I carefully estimated at a foot square, out of which several superficial and deep glands had been eroded by the poultice. I ventured to leave the poultice off and treat the neck with simple *surgical* dressings, and the surface eventually healed. The case was certainly a cure, but at what cost of time and suffering to the man, not to mention the extensive disfigurement to his neck ! Another process is the insertion of various forms of caustic to promote suppuration. This method is painful and slow—one cannot limit the action of the caustic ; portions of diseased tissue are not touched, and are consequently liable to break down later on, and the scars are apt to be most unsightly. Injections of carbolic acid, iron, pepsine, iodine, ethereal solutions of iodoform, etc., have been tried, and are open to many of the objections mentioned in

reference to the caustics. Ignipuncture seems to me also to possess the same disadvantage, only in an aggravated form. Aspiration of suppurating glands, or minute lancet punctures, with insertion of a small drainage tube, may occasionally be sufficient when every portion of the gland is thoroughly broken down; but these cases are rare. The usual result is that diseased tissue is left behind, and the operations have to be frequently repeated, leaving a neck full of small scars, inequalities of surface, and skin puckers. Moreover, this method is only applicable to superficial glands.

Scraping with some form of spoon or scoop through a small incision is in my experience very rarely successful, unless the gland or glands are masses of caseation and pus. Too often the hypertrophied glands merely contain pockets of caseation or *débris*; these pockets can, of course, be easily emptied by a scoop if one is lucky enough to hit them off; but the hard, undegenerated gland substance cannot be touched by the scoop without undue violence, and the former is consequently left behind to break down at leisure, and keep open a sinus possibly for many months. A sharp scoop wielded by a muscular surgeon is not altogether a harmless implement for mining operations in the neck! Taking all these methods into consideration, many surgeons, including my colleagues and myself, have gradually adopted the principle of excision; by this I mean the making of a moderately free incision, and with patience and care removing, with the knife, every enlarged gland or portion of gland.

It cannot be denied that the operation is occasionally a very formidable one, especially when, owing to plastic inflammations, the structures of the neck are very adherent to each other, and I for one do not hasten to use the knife till every chance has been given for the glands to disappear. If pus is present, the time for operation has come, for when one of a group breaks down the rest will follow suit; for so surely as the surgeon leaves one small, innocent-looking gland behind, it will swell up and disintegrate, and the healing of the wound will be delayed. If the presence of pus is uncertain, the duration of the disease and the condition of the patient must be one's chief guides, as well as the opportunity one has of keeping the case under observation.

The principle of the operation is the complete removal of the dead or permanently injured gland from the neck, even as a piece of necrosed bone is removed wholly, and not in

part. By making a clean sweep of the diseased structures with the scalpel, the surgeon does in one or two hours what nature (even with the assistance of poultices, caustics, etc.) may take months or years to perform. Moreover, the scars of the surgeon's wound present a less unpleasant appearance than the irregular puckerings of a burst abscess.

It is not claimed for the "excision" method that it is a perfect method, chiefly for a reason that holds good for all the other operative processes, and that is the frequent subsequent deposit in fresh glands of tubercular matter.

The chief danger of this method is hemorrhage during or after the operation. This may be avoided by care and patience; and I may mention that hitherto, among the hundreds of cases we have had at Margate (some of them of considerable magnitude) this has never caused us more than temporary trouble. My own personal experience of gland cases must amount to nearly two hundred during the last three years, irrespective of the cases I have seen under the care of others. Many of these cases were small ones, or convalescent, and needed no active treatment. Considerably over one hundred have required some sort of operation, from a minor scraping operation for decorative effect to a long and tedious operation, in which as many as seventy or eighty glands had to be removed. Hitherto I have fortunately had no death to record save one from the anæsthetic (ACE), a single suppurating gland (and my colleagues have been equally fortunate). In one case only had I serious hemorrhage; in this the jugular was wounded, as it was deeply embedded in a mass of adherent glands. In no case has there been any noteworthy septic complication; and the vast bulk of the cases were firmly, and I trust permanently, healed in from three to four weeks—this was specially the case in the larger operations.

I might mention that I have never yet seen danger from air entering a vein. With rigorous antiseptic precautions and judicious drainage, with careful adjustment of edges of wound and graduated padding, with liberal rolls of absorbent dressing round the neck, and with absolute rest with the head between sandbags, the wound usually heals kindly, and in a large number of favourable cases is practically well in less than a fortnight. The directions and positions of incisions must vary according to circumstances; on one or two occasions in very extensive cases I have even divided the sterno-mastoid without interfering with the good result

of the operation. I have not attempted to prove in this somewhat lengthy paper that there is only one way of dealing with strumous glands, but I have tried to show from the results of a fairly extensive experience that when constitutional means have been duly tried, the surgeon's knife, carefully yet boldly used, is a more satisfactory, and especially a more rapid and permanently successful, method of treatment than any other we are at present acquainted with. It will be a source of great satisfaction to me if I have succeeded in making my arguments clear, and sufficiently sound to meet the approval of those who are called upon to treat this troublesome and intractable disease.

The *President* asked if tuberculosis had often been found to follow after operations for removal of glands; was there danger of extension to other organs?

Mr. Edwards asked *Mr. Thornton* if he removed the skin when it was extensively undermined, and when it was sodden. With regard to the question of drainage, he was sure it was most important that they should be well drained, not only by horsehair and catgut, but by drainage tubes. He found that when dressings were put on it was very important that the head should be fixed; otherwise, the dressings became loosened, and air got in.

Dr. Alderson said he had sometimes found great relief from hot fomentations with poppy water, applied for a short time—when one had made up one's mind that the abscess would have to be opened. Local application of iodine was useful to bring the abscess to a point. He asked if any good came from a seaweed poultice.

Mr. Keetley thought he would always be in favour of removing the glands before they were dead or dying, though the cases par excellence for operating on are those where one or two large glands exist after the patient has been at a place like Margate for a time, such as single glands near the angle of the jaw. The operation is trivial, and quite safe; glands, if left to themselves, must go from bad to worse. He agreed that the sharp scoop is a dangerous implement, especially when used through a small hole. With regard to hemorrhage, iodoform gauze would be quite safe for packing a wound exposing the jugular vein; it would be better than tying the vein. An apparatus for fixing the neck afterwards was absolutely necessary—sand-bags not sufficient. He now puts the head on a wooden back-splint. With regard to scar, that one made by the surgeon is much better than the one made by nature.

Mr. Lloyd thought it remarkable that in patients with such constitutions the wounds should have healed so rapidly. He thought it important to operate before the skin became affected.

A member asked if anyone had any experience of *salol* locally. Had used it—two parts of *salol* and one of starch—in a case of ulcers about the scrotum, penis, and thighs, and found it useful.

Dr. Eccles thought the influence of the Margate air had probably great influence on the course of the cases.

Mr. Thornton thought that removal of the glands generally had the effect of causing disease in other organs to clear up, and was one of the chief inducements to remove glands. He advised trimming away all the skin, as if left he found it became heaped up and formed a worse scar. The jugular was generally injured in cases where there were adhesions. Drainage depended upon the size of the wound of the neck—preferred having a tube in for about twenty-four hours, as the best way of starting. Had found that two heavy sandbags were generally sufficient to keep the head quiet; would take into consideration the question of having splints for the neck. Poulticing to soothe pain he thought legitimate, but would not use it himself; would prefer some absorbent cotton-wool, with an antiseptic lotion. There was a common opinion in Margate that seaweed poultices were of some good; it was a popular remedy. Seaweed certainly seemed to do good when wrapped round a sprained ankle. Admitted that influence of Margate air did keep up the patients. He had noticed that keloid generally came when some trace of the gland had been left behind.

Mr. Keetley described, with diagrams, a mode of amputating at the ankle-joint, for intractable circular ulcers of the leg, in which the skin and deeper soft tissues of the *dorsum* of the foot were transferred to the back of the leg, as well as the sole of the foot to the shin (as in the case published by him in November, 1885). He thought that when a chronic enlargement of a gland, not syphilitic, persisted in spite of sea-air, etc., the sooner it was excised the better, and that the dangerous and difficult cases were those in which radical treatment had been procrastinated.

Mr. Percy Dunn showed a pathological specimen of an enlarged lateral lobe of the prostate, with ulceration of the bladder.

Ordinary Meeting, Friday, February 7th, 1890, H. Campbell Pope, M.D., President, in the chair.

Dr. Lewers read a paper on

THE INDICATIONS FOR REMOVING THE UTERINE APPENDAGES FOR CHRONIC INFLAMMATION, WITH NOTES OF TWO CASES.

Dilatation of the Fallopian tubes was a condition frequently met with. In a series of consecutive observations on one hundred bodies in the *post-mortem* room of the London Hospital four years ago, he had found the Fallopian tubes dilated in seventeen cases. The natural inference seemed to him then to be that if it were possible to examine the pelvic organs in a series of patients complaining of symptoms referable to the pelvic organs, disease of the tubes would be found in a still larger proportion of the cases. Subsequent clinical experience had tended to confirm this view. By the expression "inflammation of the uterine appendages" was meant a condition where the Fallopian tube was more or less dilated, its fimbriated end being closed by pelvic peritonitis, and firmly glued to the ovary; there were, almost immediately, more or less numerous adhesions between the tube and ovary, and between the lump so formed and the adjacent parts. The symptoms in such cases were more or less constant pain in one or both ovarian regions, worse at the menstrual periods, pain on coitus, and sterility of the same duration as the other symptoms. Menstruation also was usually irregular. These symptoms could often be traced back to some one of the well-recognised antecedents of pelvic peritonitis, *e.g.*, a difficult confinement, a miscarriage, or an attack of gonorrhœa. The physical signs were: Diminished mobility of the uterus, and the presence of lumps, also more or less fixed, at the sides of the uterus in the right and left posterior quarters of the pelvis. Given the symptoms and physical signs mentioned, a diagnosis of chronic inflammation of the uterine appendages might be made with a considerable degree of confidence. Dr. Lewers thought that it was most important to give palliative treatment a thorough trial in cases of this kind. Removal of the appendages was only justifiable when milder measures had failed to afford relief. Further, the desire for operative treatment should

be strong on the part of the patient. These cases were on quite a different footing as regards the question of operation from cases of ovarian tumour. In the latter it was a duty to urge an operation on the patient as soon as the diagnosis had been made, whereas, in the cases under consideration, the proper course was rather to consent—after the failure of palliative treatment—to the radical operation at the urgent request of the patient. To sum up, therefore, cases suitable for operation were those (1) where palliative treatment had been fairly tried and failed; (2) where the physical signs above mentioned were well marked; and (3) where the patients themselves were anxious for operation.

Dr. Lewers also read notes of two cases of chronic inflammation of the uterine appendages which had been under his care at the London Hospital. Both of these cases tried by the three tests just mentioned were suitable for operation. In both of them the diagnosis was confirmed at the operation, and in both of them removal of the diseased appendages had been followed by complete relief to the patient's symptoms.

The *President* observed that it was an operation not to be undertaken lightly. He quoted a case where, ten days after the operation, the patient was seized with violent diarrhoea which terminated fatally. At the *post-mortem* it was found that part of the intestine was firmly bound down by adhesions.

Dr. Handfield Jones raised the question as to whether in many cases breaking down adhesions would not be sufficient.

Dr. Leith Napier said he would confine himself to the relation of three of his cases as illustrative of this interesting question. Very diverse results under very different conditions were shown by these cases.

Case 1 was an unmarried neurotic woman, whose constant uterine and ovarian ailments were a source of uninterrupted trouble to herself and her doctors for years. Both ovaries and tubes were removed by *Dr. Keith*: it was needless to say the operation was done well, but the result was no improvement, rather the reverse. Hemorrhage continued for eighteen months after the operation. She was then lost sight of.

Case 2, a young delicate widow, had a history of somewhat tedious convalescence after parturition. Some months after she came under *Dr. Napier's* care. Her brother-in-law, a

medical man on the staff of a hospital, could not accept the account given of her condition. In consequence of this difference of opinion Dr. Keith saw the lady, confirmed the diagnosis, operated, removing both ovaries and tubes. One ovary was practically an abscess cavity, and so thin-walled that it must soon have ruptured; the other tube was densely adherent, and filled with sero-pus. After six months she was restored to good health. There was a family history of tubercle.

Case 3 was a patient at St. Pancras Dispensary, who had been under treatment for over a year. Two months ago it was decided to operate. She then took influenza, consequently the operation had to be deferred. When last seen, a week ago, she was so much better that it was decided not to operate. Practical questions were: What precise conditions justified operation? How long should other treatment be tried? Were non-specific and specific cases equally likely to recover without operation? Were we justified in removing ovaries and tubes simply for neurotic disturbances?

Dr. Lewers, in reply, said that in the first case he undertook the adhesions were found so great that they were partly broken down, and the appendages were not removed. He was sure the proportion of cases in which the adhesions were found bad enough not to justify the removal of the appendages would diminish with the increased number of cases the operator had to deal with. One must have evidence of local disease: a fixed lump and pain in one side of the pelvis.

Mr. S. Paget read the notes of

A CASE OF VILLOUS DISEASE OF THE BLADDER.

Mr. W. P., æt. 60, with history of four years' hæmaturia, much weakened by constant loss of blood during the last three weeks. Supra-pubic cystotomy showed a large soft blood-stained growth, which was removed by avulsion, but a small portion was left behind. Patient did well in every way for two days, then suddenly sank and died, apparently from weakness of the heart. *Post-mortem*: A small wound, made in the peritoneum during the operation, and stitched, with the deep fascia stitched over it, was found soundly healed. Beside the main growth there was an area about the size of a crown-piece covered with low, close-set delicate villous filaments. Mr. Paget showed the bladder, and the

fragments of the growth, and expressed his regret that he had not been careful as to the presence of villous particles in the urine before operation.

The *President*, *Mr. Lloyd*, and *Dr. Clemow* having made some remarks, *Mr. Paget* said he would act again in a similar manner in such a case. He considered that in using the cystoscope he must have run the instrument into the growth, which filled the bladder, and so have been unable to see anything. Death seemed caused by loss of blood, and possibly by disease of the kidneys.

Mr. Fitzroy Benham read a paper on a case of

EXCISION OF A VILLOUS GROWTH FROM THE RECTUM.

Mrs. C., æt. 63, was under the author's care at the Queen's Jubilee Hospital. Prior to her being placed under ether an enema was given, and after dilating the sphincters, he succeeded in obtaining a grasp of the growth with a vulsellum, and so dragging a part within reach, enabled him to pass a thick silk ligature round the bulk and so pulled it outside the anus, being about the size of a small foetal head. The mass in this new situation was so cumbersome and friable, and the bleeding so profuse, obstructing all view, he was obliged to tighten the ligature, or rather "hold on cord," and cut away portions of the growth. The bleeding being under control, and the mass diminished in size, partly from its now less vascularity, and partly from removing sections, he was readily able to explore its base. There was no pedicle, the growth evidently springing immediately from the anterior wall of the gut, so on dragging the mass, it caused a pedicle to be formed by the wall of the gut. Through the centre of this he passed a double silk ligature by means of a stout curved mounted needle, and again transversely, in order to tie the pedicle into four sections, but was most cautious not to include a fold of gut, which might have possibly slipped into the walled pedicle. After tightening these, he applied one over all, and carefully cut away the remaining portion of the mass near the ligatures. The parts were then well anointed with boracic acid mixed in vaseline, and a pad-bandage applied. The bowel was twice daily gently syringed with warm boracic solution by means of a two-way catheter, and all the ligatures had separated in about eight days. The patient made an uninterrupted recovery, and was quite

convalescent in about three weeks after the operation, save weakness and the great anæmia from which she had been previously suffering. For this he prescribed, apart from suitable dieting, a mixture consisting of ten-grain doses of the ammoniated citrate of iron, the drops of Fowler's solution and sal volatile to be taken three times a day after meals.

Mr. Percy Dunn showed the following pathological specimens: Sarcoma of the breast, and extensive tubercular ulceration of the ilium; caries and necrosis of the os calcis; strumous testes.

Mr. Keetley showed a case of excision of the astragalus, and one of excision of the os calcis.



Ordinary Meeting, Friday, March 7th, 1890, H. Campbell Pope, M.D., F.R.C.S., President, in the chair.

CLINICAL EVENING.

CASE OF INVETERATE PSORIASIS, RAPIDLY CURED.

Dr. P. S. Abraham exhibited a patient previously shown at the society, in whom an inveterate and extensive psoriasis of twelve years' standing had been rapidly cured entirely by external treatment. He also showed a man, æt. 43, with hemorrhagic erythema and urticaria of two months' duration; also another male patient of the same age with a warty serpiginous growth on the wrist, supposed to be lupus necrogenica, which had been slowly spreading for about seven years; and a young man with an interesting sub-vesicular pruriginous eruption, with a grouped arrangement, and said to be a dermatitis herpetiformis which had lasted for about two years.

Dr. Colcott Fox and *Mr. Benham* made some remarks.

Mr. John R. Lunn:

A CASE OF STRANGULATED FEMORAL HERNIA IN A WOMAN AGED 75.—HERNIOTOMY.—RADICAL CURE.—RECOVERY.

Sarah B——, aged 75, admitted into St. Marylebone Infirmary on January 12, 1889.

The patient stated she had had a hernia for 25 years, and had always worn a truss, and was able to replace the rupture until the day before admission, January 11th, when the swelling would not go back. On admission, abdomen distended and tense. A large femoral irreducible hernia was found on the right side; she was not able to retain any food. Vomited faecal matter, and was very collapsed. The usual treatment was applied: hot bath, ice-bag, large enema given, and pil. opii, gr. i. After twenty-four hours of palliative treatment, some of the swelling could be reduced by taxis, but there still remained a lump, about the size of a Tangerine orange, connected to the femoral ring by a constricted neck, and very movable; it felt like a thickened sac, and was dull on percussion. The same local and internal treatment was continued until January 14th, when she still continued to vomit, and her life appeared in great danger. The bowels were not opened by the enemas given. On January 15th the patient requested that something should be done. Accordingly, she was put under an anæsthetic, and the tumour in the groin was cut down upon and sac opened. The sac was much thickened and congested, and on introducing the finger into the ring, a small knuckle of intestine was felt, which receded into the abdomen. A small piece of omentum was also found in the sac. The omentum was ligatured and removed. The sac was cut away, and the remainder sewn up with catgut and left *in situ*. The wound was stitched with silk ligatures, and dressed with iodoform powder and lint. After the operation the patient soon passed some flatus. The vomiting and pain soon disappeared after the operation. The wound was not dressed for a week, when it was found quite sound. The bowels were opened naturally nine days after the operation. She had no rise of temperature. The patient was up and about one month after the herniotomy, wearing only a spica bandage. She was discharged March 20th, quite well, and no impulse on coughing was noted. When I last saw her, in November, 1889, there was no return of the hernia, and she was not wearing a truss.

CASE OF SCLERODERMA OF THE BREAST.

Dr. Schacht showed a case of scleroderma of the breast occurring in a single woman, æt. 18. Her attention had been drawn to the scar-like patch under the left breast about three months previously by occasional shooting pains, which

were worse after using the left arm. It was because of these pains that she sought advice. Her general health was very good, and the only possible exciting cause which suggested itself was pressure of the corset on the part exposed.

Dr. Colcott Fox stated that the disease seemed to be due to some nervous origin, and mentioned the rareness with which it occurred.

Mr. Lloyd mentioned some cases which he had seen.

CASE OF UNREDUCED DISLOCATION OF THE HIP IN EARLY CHILDHOOD.

Mr. R. F. Benham showed this case, in which there had been arrest of development with considerable shortening, and a novel method of mechanical support. The patient, an exceptionally well-developed muscular gentleman, fell from his nurse's arms when two years old, when he sustained the injury which had forced him to use a crutch and stick to get about until recently. When first seen by *Mr. Benham* the limb was much wasted and shortened, and the foot was about half its natural size and in the equinus position; movements were very limited. The deformity of the knee having been rectified, a walking instrument of a novel kind was designed which enabled the patient to get about without the deformity being detected, and with only a slight limp perceptible. It consisted of a concealed crutch-piece and a boot without a raised sole and of the same size as the opposite one.

Mr. Keetley thought that the large amount of atrophy of the limb made the case seem like one of infantile paralysis. The patient was left-handed, and altogether weaker on his right side, which would agree with the case being paralytic in its origin. The instrument seemed admirably adapted to the patient's needs.

The *President* said that cases of this kind were often brought about by too much traction being made use of at child-birth when there was a breech presentation.

Mr. Henry Baker looked upon the case as one the result of infantile paralysis.

Mr. Benham, in reply, said there was a clear history of a fall, that there was no paralysis of the upper limb, and that the patient being left-handed could be accounted for by its being a family complaint.

Mr. Benham also showed a child, *æt.* 3, with contraction and closure of the mouth owing to severe ulceration of the

skin. About eighteen months the child had measles, which was followed by a large crop of what the mother called "blisters" on the inner side of the upper lip, which rapidly spread to the outer side. Mr. Benham regarded the case as one of "cancrum oris" followed by contraction of the tissues. He intended operating on the case the following day.

Mr. Ballance showed a patient from whom he had removed a large tumour of the thyroid gland. The tumour was exhibited.

Dr. Venn showed a large polypus, weighing two pounds, which he had recently removed; also a dysmenorrhoeal membrane passed by a young lady.

Mr. Weiss showed a man on whose abdomen there was extensive superficial contraction of the skin following an eruption which commenced three and a half years ago. The patient gave a clear history of syphilis.

Mr. Mackinlay exhibited a patient with complete traumatic irideremia with good vision and no photophobia. The patient, a gas-fitter, æt. 44, was struck in the eye by another man seven and a half years ago, and his sight was at once much affected, but this has improved since. No operation had ever been done. No lens could be detected by any means, nor was there a vestige of the iris to be seen.

Messrs. H. P. Dunn and T. R. Lunn exhibited pathological specimens.



Ordinary Meeting, April 11th, the President, H. Campbell Pope, M.D., in the chair.

ELECTRICITY IN THE TREATMENT OF CANCER.

Dr. Inglis Parsons read the notes and remarks on his first case of cancer. The growth had been arrested for one year and eight months. The patient, æt. 38, was under treatment for three weeks in August and September, 1888; since then she had not required further treatment. The growth previous to the treatment had been rapid, involving three axillary glands, and causing marked retraction of the nipple. The stroma remained unabsorbed, and formed a complete skeleton of the growth.

Mr. Stephen Paget said that the experience he had of removing cancer of the breast by the knife made him feel convinced that there was no advantage in doing it by electricity. Nervousness on the part of the patient and the dread of the knife were brought forward as an excuse for it, but were there not anæsthetics to be counted upon, and was it not better for the patient's sake to remove the growth by one sweeping operation, instead of having to resort to several applications of electricity at intervals, and six months afterwards still to have the tumour there?

Dr. Travers regretted that the patient was not there to be seen. In some thirty cases he had to deal with, removal of tumours by the knife had been as satisfactory as could be wished. He was quite sure that the dread of the knife kept many patients from seeking removal of a tumour until the disease was very far advanced, and it seemed to him that in these cases the new method might be of use in making them come forward earlier.

Mr. Jessett said his experience was that the application was not free from risk. He had found that each time the patients had complained of much pain afterwards, and had shown reluctance to come on the table again. He did not think the eighteen months of *Dr. Parsons'* case long enough to say the patient was cured.

Mr. Keetley had seen two cases in one of the infirmaries following this method of treatment. He did not see that anything could be preferred to the ordinary method of treatment carried out in the hospital. Recoveries were always good, and although recurrence did happen occasionally, yet it was often easy to remove the growth again. He did not understand that the new treatment would cure the cancerous diathesis.

The President and *Dr. Eccles* joined in the discussion.

Dr. Parsons, in reply, said that two of his cases had been given up by his colleagues who had refused to operate with the knife. It seemed to him that the knife could do very little for cancer, so the question was whether anything better could be done. He had never spoken of a cure, but professed to have obtained the arrest of the growth of the disease. He did not use the term electrolysis because the amount of electricity brought into play was much too great for that method. He used a very strong current, flashing it backwards and forwards, so as to produce a mechanical injury.

UNCONSCIOUS AUTOMATIC ACTIONS OCCURRING AT THE
CLOSE OF EPILEPTIC FITS.

Dr. Colman, in this paper, drew attention to the fact that they occur quite as frequently after the slightest forms of *petit mal* as after severe epileptic fits. He gave a number of cases illustrating the different kinds of actions which are performed by such patients, and urged the necessity of bearing this occurrence in mind when occasion arises to give evidence as to the responsibility of a person for peculiar acts which he may have committed.

The President said he would have liked to hear described some of the more purely automatic actions of patients. He referred to a lady now under his care suffering from hemiplegia, who formerly when she yawned used to raise her hand to her mouth, and who now seemed to make an automatic attempt to do the same thing with her paralyzed hand.

Mr. Lloyd said he believed that many cases brought to hospitals, and put down by the residents as cases of hysteria, were really cases of what *Dr. Colman* had been describing.

Dr. Drewitt and *Dr. Eccles* made some remarks.

Dr. Colman, in reply, said he had not noticed that putting the hand up to the mouth was frequent in the post-epileptic state. He had often observed that the patients micturated repeatedly, so that the act of micturition could not be looked upon as a sign occurring immediately after recovery had taken place.

Dr. Clippingdale showed a specimen of aneurism of the left ventricle of the heart.



Ordinary Meeting, May 2nd, 1890, the President,
H. Campbell Pope, M.D., in the chair.

Dr. Colcott Fox read a paper on

THE URTICARIA OF INFANCY AND CHILDHOOD.*

He contended that considering the great frequency of the affection in this country, the chronic and rebellious character

* This paper is published in full in the *British Journal of Dermatology*, 1890.

of many cases, the difficulties in diagnosis experienced by those most specially versed in the features of the eruption, and the divergencies of opinion that exist as to the nature and affinities of the lichen urticatus of Bateman, the subject received a totally inadequate exposition in the text-books. He held that the affection was not to be regarded as a concurrence of two diseases, an inflammatory papular one and an urticaria, nor as essentially a prurigo, with some secondary wheals; but that it was an urticaria, and *the* urticaria of infancy and early childhood. The special feature of this urticaria was that on account of the ready response to any irritation on the part of an infant's skin, an inflammatory papule was developed in each wheal, and was left on the subsidence of the wheal. Another point he sought to make was, though this complicating inflammatory lesion was usually papular, it was sometimes vesicular, pustular or buttons, and that occasionally these several phases could be seen in the course of a single case. The affection had no direct relation with vaccinia, varicella, measles or scarlatina. Dr. Fox then discussed the etiology of the affection, the diagnosis from scabies varicella, and prurigo and the treatment.

Dr. Abraham thought there was always the question whether the disease was a primary or a secondary lesion, and that insects were often responsible for the urticaria. He found a tar bath for about ten minutes the best thing to allay the irritation.

The *President* said these cases depended upon a combination of circumstances, one of which was gastro-intestinal irritation. He thought children were benefited by chicken or veal broth and Dr. Cheadle's gluten food. Magnesia was more useful even than bismuth and applications of tar.

Dr. Potter had never seen eczema associated with scabies, unless there were some external irritant.

Mr. Kectley had seen a case of urticaria associated with abscess, which got well on opening the abscess, and he attributed it to a possible septic cause.

Dr. Drewitt backed up the treatment by large doses of quinine. He thought mercury useful in specific cases.

Dr. Fox replied that he thought in such cases as that mentioned by Mr. Keetley, the urticaria was due to vaso-motor changes, and not to septic ones. Any ailment which the patient has should be cured, and the special treatment of the affection should be seen to.

WHAT CAN BE EXPECTED FROM LOCAL TREATMENT IN HAY FEVER AND PAROXYSMAL SNEEZING?

Dr. Scanes Spicer pointed out that the symptoms of hay-fever are pre-eminently perversions or exaggerations of the normal nasal reflexes plus signs of nasal irritation; this being so, careful examination of the nose and naso-pharynx was an essential preliminary to the intelligent treatment of any given case. Careful examination disclosed hyperæmia with hyperæsthesia either diffuse or in localized patches, and associated or not with gross structural deformities, etc., of the nasal passages. The relation of these hyperæsthetic areas to the external irritant on the one hand, and to the involved nerve centres (probably bulbar) on the other, were considered, and the various ways in which it might be sought to arrest the disease indicated. The general and local treatment of hay fever was then considered, and the advantages pointed out of the medicated nasal cylinders which the author had devised in that (1) they permitted free nasal respiration during use; (2) they could not slip back into the pharynx during sleep; (3) they caused the affected tract to be soothed and bathed by the medicament for many successive hours. Local treatment, more especially by the galvano-cautery, calculated to modify the peripheral hyperæsthetic area, so that they no longer conveyed undue stimuli to the nerve centres, had been of late attended by the most favourable results in the practice of the author and of many others.

Dr. Eccles on

PAROXYSMAL HEART HURRY ASSOCIATED WITH FLOATING KIDNEY.

The writer's experience of paroxysmal heart hurry had been confined to cases of more or less gravity, wherein there had been distinct disease of one or other of the abdominal organs in both sexes, or serious functional disturbance of the pelvic organs in females. At the risk of appearing to argue *post hoc propter hoc*, the coincidence of extreme rapidity of the heart's action with floating kidney (4 cases), dilatation of the stomach (2 cases), and profuse menorrhagia at the menopause (2 cases), had induced the writer, in default of pathological evidence to the contrary, to regard prolonged irritation of the abdominal sympathetic, either continuous or intermittent, as a probable cause of paroxysmal tachycardia resulting from reflex inhibition of the vagus, or

stimulation of fatigue of the vagus centre, or from the reference of irritation of the sympathetic periphery in the abdomen to the cardiac-accelerator fibres of the sympathetic in the same fashion as may frequently be noticed in regard to cerebro-spinal nerves of sensation. Four cases of floating kidney were cited in which the occurrence of tachycardia appeared to be synchronous with some change of position which would produce dragging of the renal nerves. In one very remarkable case pain in the epigastrium, groin, and down the thigh, with albumen and casts in the urine, occurred only during a paroxysm of heart hurry; the patient had suffered from intermittent tachycardia almost all her life, stooping, going up and down stairs, and advanced pregnancy being the conditions which had at different times apparently produced the paroxysmal tachycardia. The existence of floating kidney was diagnosed by the writer shortly before the death of the patient, which occurred after nearly four weeks of persistent heart hurry: during which the pulse had been counted by another physician who saw the case at 245 beats per minute. Until the later attacks this patient could always "steady the heart," and sometimes arrest a paroxysm, by lying on the left side, raising the right arm above the head, and forcibly flexing the right thigh on the abdomen, a posture pointed out by the writer as precisely that which would most readily favour auto-reposition of the right kidney, the one displaced in this case.

Dr. Seymour Taylor contended that this was a contribution to a subject of much wider basis. He was convinced of the frequent association between lesions of abdominal viscera and so-called functional disorders of the heart. In some cases where the primary lesion was removed, subsequent restoration of the heart's action occurred. It seemed as though each segment of the body is influenced by some disturbance in a neighbouring or distant relative owing to the intimate relation of the parts. The true balance between waste and repair may be upset in most vital organs by overstimulation from injury or disease in some other.

Pathological specimens were exhibited by **Mr. H. P. Dunn.**

Mr. Lloyd showed an entire membranous cast from a uterus.

THE CAVENDISH LECTURE.

UNRECOGNISED LESIONS OF THE LABYRINTH.

BY ALEXANDER OGSTON, M.D., C.M.,
Regius Professor of Surgery in the University of Aberdeen.

Delivered before the Society, June 6th, 1890.

MR. PRESIDENT,

Allow me to convey to you, and through you to the other office-bearers and members of the West London Medico-Chirurgical Society, my grateful recognition of the honour you have done me in selecting me to deliver the Cavendish Lecture before you on this occasion.

In nearly all such lectures that I have read or listened to, it has been strongly impressed upon me that those dealing with wide and general subjects, however interesting and admirable they have been as evidences of close acquaintance with or deep insight into our professional knowledge, have yet proved comparatively barren of good and eventually unprofitable, as contrasted with those that dealt with some limited subject regarding which the speaker possessed some special knowledge derived from his own study and observation, or treated from a point of view in advance of those who had preceded him over the same ground.

I have, therefore, ventured to select, as the least unworthy tribute I can offer to so distinguished a society, the consideration of some diseased conditions of the internal ear or labyrinth, a subject that is of growing interest to the modern physician and surgeon, and the importance of which is pressing itself on us the more strongly as years flow by, and discoveries ripen in our science.

The labyrinth of the human ear is not only one of the least known portions of our bodies, but it is also one that both physiologist and pathologist have hitherto passed over with comparatively little attention, doubtless from the intrinsic difficulty of exploring it, and the small amount of interest it awakens among practical men. It is scarcely, I believe, an exaggeration to say that, concerning the labyrinth, its

functions and diseases, we know little more than that in health it enables us to hear sounds and distinguish tones, and that it is sometimes affected by the following diseased conditions, viz. (1) congenital deafness, resulting in deaf-mutism; (2) deafness acquired in middle or advanced life, called nerve-deafness; (3) a disturbance of hearing known as *tinnitus aurium*; and (4) the disease described by Menière, characterized by deafness, vertigo, and vomiting, and termed aural or labyrinthine vertigo, or often Menière's disease. The range of functions of the labyrinth is little known, and has never undergone an exhaustive investigation in the hands of physiologists.

When Saissy and Menière gave to the profession their descriptions of aural vertigo, the subject created in certain circles an interest that has never quite subsided, and that has been renewed at intervals by the writings of Hillairet, Hinton, Bertrand, Voury, Bonnafont, Lacharriere, Guye, and Hughlings Jackson; but the knowledge that such a disease exists has not yet fully permeated the various branches of the profession. It is surprising to see how many persons suffering from aural vertigo are subjected to the verdict of brain disease, and remain in terror of their lives until the true character of their illness is recognised, if it ever be recognised. I have known such even in the circles of our own profession—busy and useful men who lived under this constant dread, and suffered more than can be told, but who started at once into new life and a fresh career of usefulness on being made aware of the true nature of their complaint.

In the domain of surgery increasing interest in Menière's and other diseases of the ear is being awakened by the improved diagnosis and increasing frequency of operative interference in intra-cranial lesions; and everything at the present time favours a more extensive study of all affections of the ear, and particularly of the nervous portion of it contained in the labyrinth.

It has chanced that circumstances have directed a considerable amount of my attention to affections of the labyrinth, and that I have been fortunate in being able minutely to study some conditions which have not, so far as I am aware, been attended to or investigated hitherto. They are characterized by a series of symptoms little known to the profession, and which throw some light on a portion of this dark field of disease.

Effusion into the Labyrinth.—I refer to certain affections of the labyrinth, presenting symptoms somewhat similar to Menière's disease, but of a different character, and less striking in their features, and believe they are far from uncommon, although nearly always overlooked or misinterpreted.

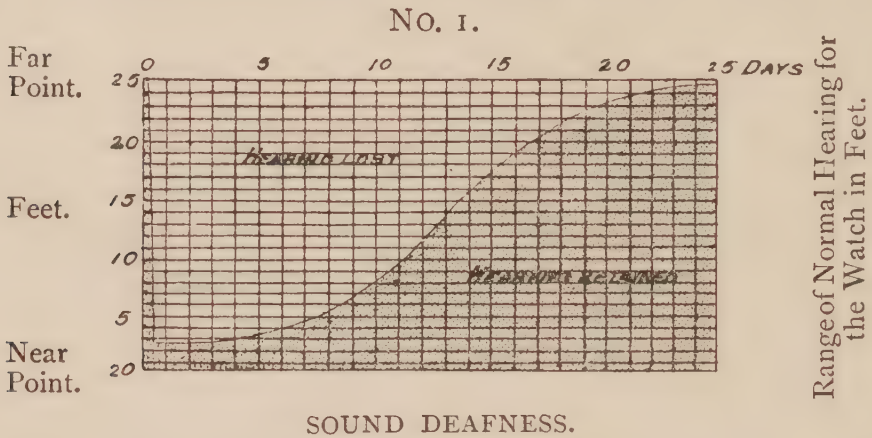
Among elderly or middle-aged persons, known to possess gouty or chronic rheumatic tendencies, or in whom, from their occupation and mode of life, these conditions may be assumed as probably existing, attacks of what I may call serous effusion into the labyrinth, with increased intralabyrinthine pressure—a process analogous, in fact, to glaucoma of the eyeball—are, if I am not mistaken, neither uncommon nor unimportant.

The individual usually observes that some morning, without any observable cause, he suffers from the feeling of tension in one ear. The feeling is peculiar. It gives the sensation of being produced by a small cause, like a drop of fluid, and is felt deep in the ear, seemingly an inch and a half from the meatus, towards the centre of the base of the skull. Generally the patient imagines that both ears suffer, but one much more than the other, so that, while a little observation convinces him that one ear is much the worse of the two, he feels as if the other were affected in the same manner, but to a lesser degree. This may be due to sympathy between the two sides. The discomfort usually rapidly augments during the first six or eight hours that follow the onset; the sense of distension becomes severe, even alarming, and so engrosses the patient's attention that it unfits him for work or society, and renders him anxious, preoccupied, and desponding. Coincidentally the following additional symptoms are observed—viz., deafness to sounds and noises in the ear.

Deafness to Sounds.—The hearing is impaired, as if the ear were closed by wax or a plug of cotton wool. When the range of hearing is tested, it is found that a watch heard by the good ear at twenty-five feet is now audible on the affected side at a distance of only two feet, or perhaps even six inches or less, a loss of from eleven-twelfths to forty-nine fiftieths of the power of hearing (see diagram No. 1). The voice, as is usual in deafness, is better heard, and is not so accurate a means of testing the diminished sensation.

This deafness gives rise to a singular phenomenon in the region of the external auditory meatus. When, in a normal

ear, the finger is brought into contact with the skin around the meatus, the individual both feels and hears the contact. If the deafness described is present, the contact of the finger is *felt* as usual, but is not so distinctly *heard*; and hence, for



three-quarters of an inch in front of and below the meatus, and over nearly the whole pinna, when the finger is rubbed gently so as to stir the fine hairs and the skin, the patient feels as if the part touched were benumbed (see diagram

No. 2.



AREA OF TOUCH DEAFNESS IN EFFUSION INTO THE LABYRINTH.

No. 2, where the benumbed area is shown), in marked contrast to the sound ear, where the usual familiar sensation is perceived.

The numbness described is not a symptom peculiar to disease of the labyrinth, as anything that interferes with the conduction of sound to the internal ear will equally produce it. It can be caused by plugging the external auditory meatus pretty firmly with cotton wool, and it may also exist where unusually large collections of cerumen block it up. It will not be well made out, however, in any condition unless the interference with hearing be considerable, and hence it is slightly marked or absent during the milder attacks of effusion into the labyrinth, and also in the severer attacks, when the great degree of deafness accompanying their early stages is passing away.

Noises in the Ear.—These are especially prominent in a first attack, and vary almost infinitely, both as to quality and degree. They are continually altering during the progress of the disease, as it improves or becomes worse, changing from day to day, and even from hour to hour. During the first day or two they are worst and loudest, often assuming the form of deep cathedral bells struck close to the ear, and the vibration of every stroke is felt, as it were, shaking the labyrinth and causing a sense of discomfort *approaching* that of acute pain.

Or the tinnitus may, at other times or in other cases, be continuous, producing exactly the sensation experienced when one stands in the close vicinity of a circular saw cutting through a log of wood. This particular form is the one most irksome to the patient, distracting his mind from what is going on around, irritating him by monopolizing his attention, unfitting him for business, or even, if it be of long continuance, rendering life almost unendurable.

Or a sound like that of the sea may be present, particularly in the milder cases, in subsequent attacks or in the first attacks after the louder sounds have passed off. The continuous roar, surging, or hum that is felt is exactly like that perceived on covering the ear with a shell. It is steady, continuous, and unintermitting, without waves of increase or decrease. This is a form of which patients do not complain much.

Lastly, it may resemble minute bells. This is generally the case during improvement or in subsequent attacks, and is particularly noticed if the patient should chance to go into some quiet room where great stillness reigns. Although it be unobserved in localities where the usual noises surround him, in the quiet of such places he seems to hear the

ringing of a fine silvery metallic bell struck with great rapidity, like a very distant electric bell which is vibrating in the affected ear.

More than one of these various forms of tinnitus may be present at the same time.

It is, perhaps, well to remark that, distressing as the tinnitus and other symptoms may sometimes be, no real pain is ever experienced.

While these sounds are fading from the severer to the milder forms the patient is aware of improvement in the feeling of tension. The first distress from this cause grows less, and finally it disappears, and during its diminution the patient usually becomes aware that his other ear is not affected, as he at first supposed it to be. The deafness as tested by the watch also lessens, and the furthest hearing point extends to four and twelve feet, and so on to normal, or nearly so; but a very careful measurement will almost always prove that, however slightly, a permanent defect persists (see diagram No. 1).

During the first few days of the attack, while the early symptoms are slowly diminishing, the patient may observe, or be brought to observe, several interesting phenomena.

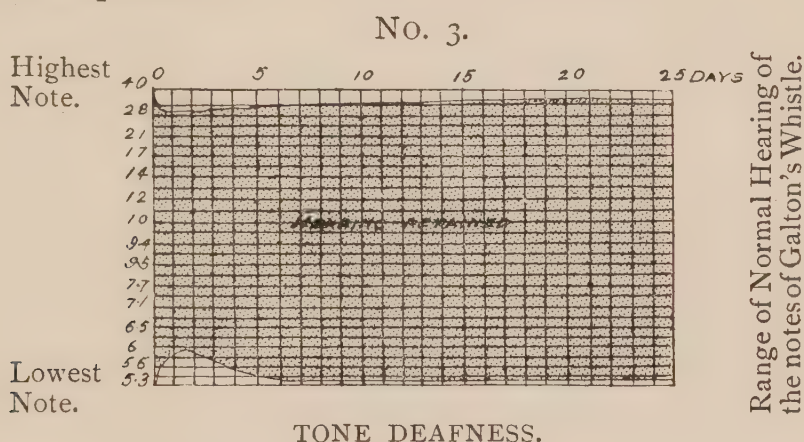
On going to bed, after the bustle and noise of the day, he has usually, in the early stages, difficulty in falling asleep owing to the irritating noises in the ear. And even after he has fallen asleep he may awake now and then in the early part of the night with the unpleasant consciousness of their existence. But when morning has come and he first awakes the tinnitus is usually very much diminished, often, indeed, entirely gone, and it is only on his moving or rising that it and the tension recommence, and quickly resume nearly their former intensity.

During the stage of labyrinth distension every sharp noise, like the closing of a door, shutting of a book, or even the unfolding of a newspaper, causes a momentary vibrating discomfort amounting almost to pain, the sensation being somewhat similar to that experienced when a cannon is fired near the ear, although less in its intensity.

Every movement that agitates the body, such as driving, railway travelling, shooting, and even walking, increases the sense of fulness and the tinnitus, while avoidance of such causes improves them. The very pulsation of the arteries, particularly at night, causes discomfort. The noises of the street are felt to injure, and the quiet of home, and

especially the recumbent position in bed, to improve the symptoms.

Blowing the nose and stooping aggravate them. Indeed, even where the symptoms are passing off, they may be for a few minutes reproduced if the patient be instructed to stoop so that his head is placed between his knees for a short time, and to blow his nose when in that posture. The moment he stands up the aggravation is perceived, and the patient then sometimes shows a slight tendency to stagger, or at least has his power of balancing himself on one foot distinctly diminished, and he may be himself conscious of being slightly giddy. Much, of course, depends on the intelligence and powers of observation of the patient, and on the inquiries of the observer. The temporary aggravation caused by the congestion from stooping and the shock from inflation of the tympanum in blowing the nose passes off in a few minutes, as might be expected.



Tone Deafness.—I have never found that the patient was, during the attacks, absolutely deaf to any sound of an ordinary nature; that is to say, he retained his power of recognising all ordinary noises that were not musical sounds, his deafness to them being only relative, so that when they were sufficiently near his ear to be heard, he recognised their nature accurately. So far, there was no perversion of hearing.

But when tested by musical notes, matters were not quite identical. It must, however, be remarked that our present means of testing perception of musical notes are most unsatisfactory, and, indeed, we know little, in any scientific fashion, of what the normal range of musical perception is. All the notes of an ordinary piano were invariably clearly heard and recognised as musical sounds, as far as I could judge. The same thing was true of every case I examined

with the tuning-fork. However the pitch was altered, the patient recognised the sounds as a musical note, and seemed to appreciate its pitch correctly. The only instrument of examination that gave any positive result was Galton's whistle. With it a defect was always found; at the upper end of the scale a deficiency of about eight or ten numbers was usual, and at the lower end a defect of $\cdot 5$ to $\cdot 8$ was clearly made out; the patient heard the hiss of the whistle at these parts, but did not hear it as a whistle or musical note. Diagram No. 3 illustrates this, showing the diminished range of musical perception by abolition of its upper and lower limits.

Musical Sense.—I am not enough of a musician to have tested the sense of harmony in patients suffering from labyrinth effusion; but so far as I could do so, I generally failed to find that the musical sense was altered; for the power of recognising harmonies and discords, and of naming the individual notes struck on an instrument, seemed to be fully preserved.

The preservation of the musical sense does not, however, seem to be invariable. When I chanced to speak to Dr. Alexander Bruce, of Edinburgh, regarding my observations in this direction, he informed me that he had a patient who suffered from conditions like those I described, but in whom, as a consequence of the attacks, the musical sense had become perverted.

In one of my own patients also it was found that a disturbance of the musical sense had occurred, under the following conditions. His first attack of the disease was about three or four years ago, and since then he has had eight fresh attacks on the right ear, gradually diminishing in severity. He had inherited a marked taste for music, and possessed so accurate an ear that he could at once detect any false note in any instrument of a full orchestral band. He possessed a very fine baritone voice, and delighted in music. He had, without knowing the names of the notes in written music, or on the piano, taught himself to play that instrument; and on any tune being suggested to him, he could at once compose, instinctively as it were, a suitable accompaniment to the air. He was an accomplished solo and part singer, and a prominent member of his church choir. Being of a bright and happy disposition, he was continually singing and whistling when engaged in his occupation.

But since his illness began all this has been changed. He

has still the power of detecting harmonies and discords when tested by the tuning-fork, and can also, after he has been given the key-note, name another note of the scale subsequently struck. But when he sings or whistles, he cannot be sure of doing so correctly, and mistakes the notes, especially the higher ones. Even a familiar tune suggested to him he cannot correctly complete. He, in fact, both plays and sings false, although his inaccuracy in these respects is now lessening, and he is recovering his powers of singing and playing. Since the attacks began he has lost his passionate love of music, and become quite indifferent to it; while his favourite pieces have ceased to possess any attractions for him. His wife, who has also an accurate ear, says that when he listens to music she is satisfied that he has ceased to recognise false notes when they are played; although on this point he himself does not agree with her statements.

His appreciation of and love for music have, he thinks, of late returned to some extent, but he has lost all pleasure in listening to orchestral music, and has now quite ceased to sing and whistle as he used so constantly to do.

I have not been fortunate enough to obtain full details of Dr. Bruce's case, but hope he will publish them at no distant date, for they were of very unusual interest. I understand that his patient, a lady, suffered from some affection of the labyrinth like that I have described, and so entirely lost the love of music and skill in it she had until then possessed, that she disliked playing or hearing music on account of the positive discomfort it caused her, and that she lost, besides, the power of recognising tunes that had formerly been familiar to her. Of late, however, her symptoms have improved, her hearing is better than it was, and on more than one occasion she had asked for some simple tune to be played to her, and has recognised it.

Extension to Tympanum.—During the first attacks, and in such of the following ones as are severe, the inflammation occasionally extends in a slight form outwards so as to show for a short time evidence of its invasion of the middle ear. At least, I infer that it does so from the onset of symptoms indicating a little moisture in the middle ear. Probably the inflammation passes through the fenestra ovalis and fenestra rotunda. The occurrence is shown by the slightly moist sounds detected with the otoscope when the middle ear is inflated by Valsalva's or Politzer's methods, and simul-

taneously auscultated by the otoscope; they are heard as a slight squeak upon inflation, instead of the dry bladder-like crackle of the unaffected side. There is also sometimes a sort of tremolo sound, heard by the patient with certain notes, which I shall subsequently refer to in connection with otitis media, and this is, I believe, a further evidence of the inflammation occasionally invading the middle ear to a slight degree.

Variable Severity of Attacks.—It should be borne in mind that not only may the attacks vary much in severity, but that the symptoms complained of may also vary. Sometimes the attacks are so severe as to remind one of Menière's disease, to which, it will be observed, the symptoms bear a considerable resemblance. On the other hand, they are often so slight that they fail to inconvenience the patient so as to induce him to complain, or the physician consulted may deem them of small importance, both making light of them until the consequences become in time so prominent as to compel notice, at which period it is not uncommon for both patient and observer to have almost forgotten the features of the early stages.

Variable Symptoms.—The symptoms also vary much, as has been said, and any one of them may be so prominent that the others are overlooked. Thus one patient will complain most of the giddiness, another of the tinnitus, a third of the deafness, and a fourth of the distension; and even in the same person considerable variation in the prominence of the individual symptoms may be found in the different attacks. The attacks that most invite attention are those accompanied by giddiness, which may be so pronounced as to be a most serious inconvenience to the patient, and to give rise to suspicions of incipient brain disease.

One of my patients, in whom the giddiness was a marked symptom, informed me that if in the street he passed a barrel organ or street piano, the sound brought on the vertigo so that he required support, and caused him discomfort in the affected ear. He felt no inconvenience in riding in tramways or trains, and was rather improved than otherwise, on one occasion at least, by driving in a dogcart; yet the sound of the organ in church made him so giddy that he could not stand, and he rather fell into the bad graces of his clergyman, who did not believe his illness was real, by ceasing to attend church on this account. During the attacks this patient was so easily made giddy that the momentary altera-

tion of the pressure of the air, caused by anyone opening or shutting the door of his room in entering or leaving, even if it were done noiselessly, brought on giddiness and discomfort in the ear, and he had to watch anxiously and cover his ear with his hand to break the violence of this slight change of pressure. In him the giddiness was sometimes observed to have the peculiar result of making him imagine that the flooring of his room was unevenly laid.

Course.—The general course of the disease, partly indicated above, may now be more fully described. The first attack passes off in a few weeks, and leaves the patient well, though still affected by the fine defects of hearing already noted, and which may be diagnosed by a sufficiently exact examination. Probably a long time elapses, a year or more, before the second attack appears, and it is usually milder than the first. At intervals of perhaps a year or so, the patient experiences renewed, but mild, attacks, until after ten years or more have passed, the hearing has become so greatly defective that the patient is observed by those around him to be deaf to the sounds of ordinary conversation. The attacks tend to be confined to one ear, but not uncommonly the second ear is involved in the same manner. No determining cause for these relapses can be assigned, but the patient, as years pass on, shows other evidences of the gouty diathesis, such as attacks of gout or gravel, chronic rheumatic changes, or gouty thickenings of the cartilages of the pinna.

Loss of Balancing Power.—I believe I have observed that such persons lose the power of properly balancing themselves, though this is not a striking symptom, and shows itself more as a loss of skill in standing on one foot, or in climbing hills over rough ground, or particularly in crossing very stony or very uneven marshy ground. The patients generally deny this unsteadiness, from not having been observant enough to detect it. In one case it was so evident to me as to be quite convincing, although the patient was unaware of it; and in another case where it was stated not to exist, the patient subsequently returned and volunteered the statement that, after his notice had been drawn to it, he was satisfied that the unsteadiness was really present.

Guye, of Amsterdam, has pointed out ("Report of Congress at Amsterdam," vol. ii., p. 321) that in some cases of Menière's disease the handwriting is affected, and becomes shaky almost to illegibility. I have looked for such an

alteration both during and between the attacks of the disease I have described, but have failed to verify its existence, save perhaps in the form of an inequality in the caligraphy on different days—in its being sometimes very good, and next day perhaps rather shaky and unsteady.

Deafness to Shrill, Faint Sounds.—The loss of the high notes is never quite regained; but there are in nature so few high sounds that are important, that the loss may not be perceived. One of my patients had his attention drawn to it by his failing to hear the chirp of the partridges when he was shooting, though he stated he heard other sounds fairly well. I think it more than probable that if he had been told to investigate his power of hearing the notes of other birds and the sounds of insects, many of them would have been equally inaudible. I thought it better, however, to be content with the information that the sound dear to his sportsman's ear was lost to him, and avoided drawing his attention to his other possible deficiencies, of which he was happily ignorant.

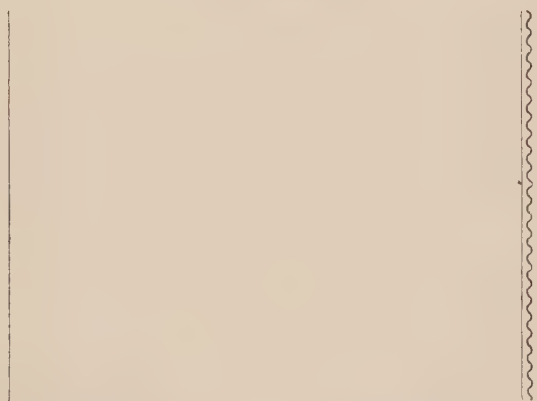
Result.—The disease is a progressive one, and tends to indefinite deterioration of the hearing. I have not met with a case where it terminated in absolute deafness, but suppose this may occasionally occur.

Pathology.—From the assemblage of symptoms it seems impossible to draw any other conclusion than that the disease is an effusion into the labyrinth, accompanied by increased pressure within it—a sort of inflammatory hydrops of the part. I have had no opportunity of studying by dissection the changes occurring in it, and can only suppose that these may be effusions of serum, perhaps gouty deposits, and slight atrophic changes of the nerve structures.

Differential Diagnosis.—The disease is evidently entirely independent of catarrhal processes in the middle ear. The persons affected by it are as subject as others to an occasional attack of catarrh of the middle ear, extending up from the naso-pharyngeal space through the Eustachian tube, which passes over without eliciting the special symptoms of labyrinth effusion, or influencing the original disease in any way. But it is most instructive in these patients to observe such an attack of otitis media. The patient suffers from the ordinary ear discomfort and other symptoms of the disease, and recognises them as being quite different from those he is accustomed to, while one symptom, which I have not found anywhere described, seems, particularly in slight

attacks, to distinguish the one from the other very clearly. The catarrh of otitis media causes a thickening of the mucous covering of the ossicles, membrani tympani, and fenestræ communicating with the internal ear, which thus suffer an impairment of their power of conducting sounds quickly and accurately to the labyrinth. Hence it results that if, as is usually the case, one ear be predominantly or alone affected, a given sound tends to reach the two labyrinths at different moments, and an impure sound is heard. Particularly with high whistle notes does this hold good; and if the patient be instructed to listen to the sound produced by his own lips when he whistles a single very high note continuously, he will generally observe that it is heard as a wavering or tremolo note, should his disease be otitis media, while it will be heard as one clear note in labyrinthine

No. 4.



PURE NOTE HEARD IN
UNILATERAL LABYRINTH
EFFUSION.

IMPURE NOTE HEARD IN
UNILATERAL OTITIS MEDIA.

effusion, where the conducting structures do not suffer (see diagram No. 4). As already mentioned, however, in severe cases of the latter disease the inflammation may extend outwards and affect the fenestræ, so that a tremolo note may be observed about the second or third day. This is, however, merely a faint and temporary occurrence, and soon subsides.

Prevalence.—The diseased conditions which I have described above seem to be far from uncommon. It is many years since I have had any connection with aural surgery as a special department, yet I have met with a considerable number of cases, and even within the last three years have seen three well-marked examples of the disease. The diagnosis, however, requires an unusual amount of minute care

and very exact observation, and I believe I have, during the same period, met with several other instances of it, where the defective observing powers of the patient, or his inability to comprehend the importance of the matter, have hindered a satisfactory diagnosis being arrived at.

Treatment.—The treatment of the diseased conditions described is not so efficacious as could be desired. During the attacks, inflation of the middle ear by Valsalva's or Politzer's method, which benefits otitis media, aggravates the symptoms, and seems to injure, by the vibrations it gives rise to. Rest, on the other hand, in all its forms, is distinctly beneficial. If possible, quiet in bed, for a few days at least, should be insisted on, as even the noises of street and dwelling-house do harm, and it is well to avoid them. To protect the labyrinth by deadening all the vibrations that reach it, firm plugging of the meatus on both sides with cotton wool is most efficient, and is felt to give ease and accelerate the subsidence of the attack.

When the symptoms are so far relieved that the condition becomes bearable, the patient, still wearing the wool, may be permitted to rise, and even go out; but much exertion and the movement in railway journeys, driving, shooting, and the like, are still certain to injure, and ought therefore, where possible, to be avoided for some time. The cotton wool and other precautions can, as a rule, be discontinued in a month or two.

Iodide of potassium and other anti-rheumatic remedies have been administered, but it is questionable if they do a great deal of good. The same may be said of counter-irritation over the mastoid process by vesicants or irritants, such as the expressed oil of nutmeg. Yet it is generally advisable to have recourse to them, were it only to give confidence to the patient and remind him to protect the ear from cold and exposure. In one case where leeches to the mastoid were recommended in the attacks, the patient expressed himself as having derived benefit from them.

The experience of Mr. George P. Field regarding the use of pilocarpine in labyrinth deafness, detailed in the *British Medical Journal* of 17th May last, page 125, fig. 1, would point to that drug as one likely to be useful during the attacks of the disorder I have described. Politzer, of Vienna, was the first, I believe, to employ these injections of pilocarpine in disorders of the labyrinth.

General regimen, likely to combat the diathesis, seems to

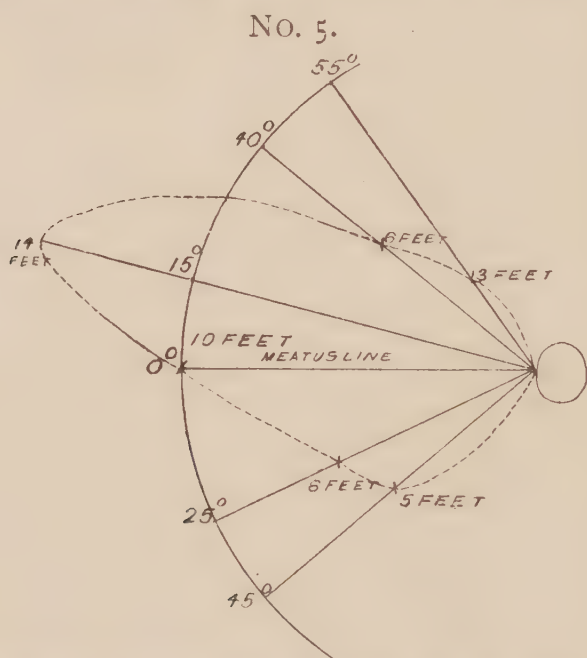
lessen the frequency of the attacks and diminish their severity, so that the patient becomes more contented with his condition, and suffers less severely and at longer intervals.

A well-merited reputation would be gained by anyone who would accomplish for the ear what Helmholtz and Donders did for the eye, by formulating the range of its powers in health and disease. At present we have not even a standard for testing the distance at which the ear perceives a given sound. The watch and the voice, which are usually employed, are very crude tests for hearing, and totally fail in estimating small defects. Itard and Politzer's acuometers, and other such instruments, have generally been abandoned as useless. The sonometer of Hughes, a species of induction microphone, to which attention was directed by Guye at the Medical Congress of Amsterdam in 1879, is the only instrument that seems to contain a possible solution of the difficulty of measuring the range of audible sound in normal and pathological conditions, but even it in its present form is quite unsatisfactory.

At the International Congress for Otology in Paris, on 17th September, 1889, Lichtwitz, of Bordeaux, advocated the employment of Edison's improved phonograph for testing the perception of sound in cases of deafness. He suggested the preparation of phonograms to serve acuo-metric scales, similarly to those in use in diseases of the eye, containing vowels, consonants, syllables, words, and sentences, which could be used many times without alteration. They were to be conveyed to the ear by the tube of the phonograph, and listened to in succession until one of the scales was reached that was not audible to the patient, and which would thus mark the limit of hearing. He exhibited a phonograph and a scale he had composed to be employed with it, and pointed out the advantage of employing an instrument which gave the requisite strength of sound in a regular and reliable fashion, a matter that could be depended upon in the improved form of the phonograph. But it remains to be seen whether it possesses the advantages that Lichtwitz claimed for it.

I do not think a better illustration could be given of the imperfection of our methods than the fact that it is not generally known that the field of hearing of a normal ear has its limits in lateral directions, and that points of greater and less acuteness exist in it. If a person be seated with his ear

horizontally directed towards a watch or other source of sound, and at such a distance from it that he can just distinctly perceive it, it will be found that as he inclines his head in various directions, the sound becomes more or less distinct, and at certain limits of inclination inaudible. As an instance of this I may give the measurements taken in the left ear of one of my patients who suffered on his right side from the labyrinth disturbances I have described, but in whom the left ear was normal. When the imaginary line joining his two external auditory meatus, which I may call the meatus line, was directed horizontally, and a watch was placed in the prolongation of this line at a distance of 10 feet



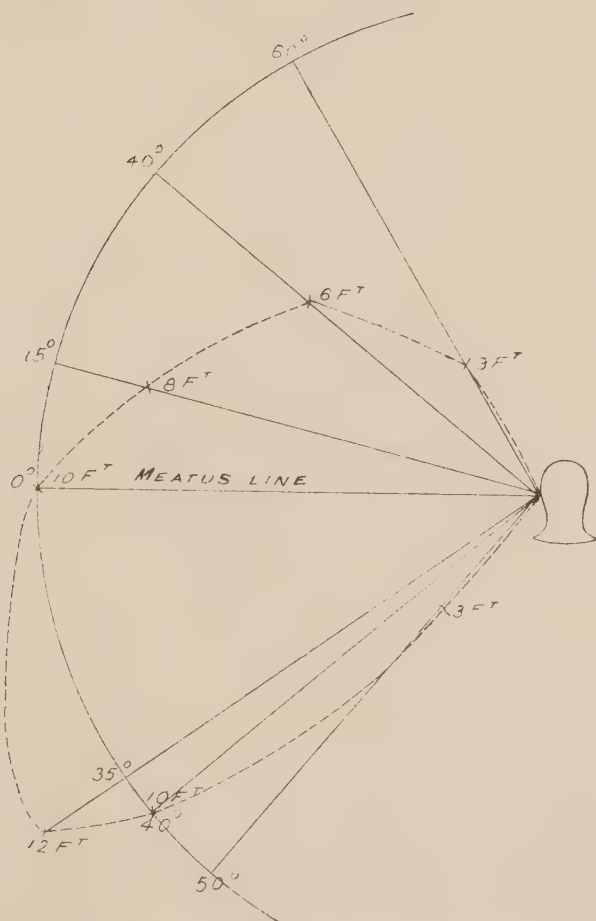
HEARING IN THE HORIZONTAL PLANE.

from his good ear, at which point he could just distinctly hear it, it was found that when he rotated his head for 15 degrees towards his back, that is, in a horizontal plane backwards, the watch was heard at a distance of 14 feet, or, which is the same thing, if his head remained stationary while the watch was moved forwards to a situation 15 degrees in front of the meatus line, it was there heard at a distance of 14 feet. It was, of course, immaterial to the result whether the patient or the watch was moved. In testing further, it was found that if the watch were moved forwards to an angle of 40 degrees in front of the meatus line, it was there heard only at 6 feet, and at 55 degrees only at 3 feet. The back part of the field showed a slow decrease

of the range of hearing, the watch at 25 degrees backward being heard only at 6 feet, and at 40 degrees backward at 5 feet, beyond which the range fell to 3 feet and less. So that the patient's field of hearing embraced only 95 degrees of a circle, its point of greatest acuteness being 15 degrees in front of the meatus line.

The diagram No. 5 will render this more intelligible. It corresponds to several other measurements I have taken of normal ears, and is, I think, a tolerably accurate representa-

No. 6.



HEARING IN THE VERTICAL PLANE.

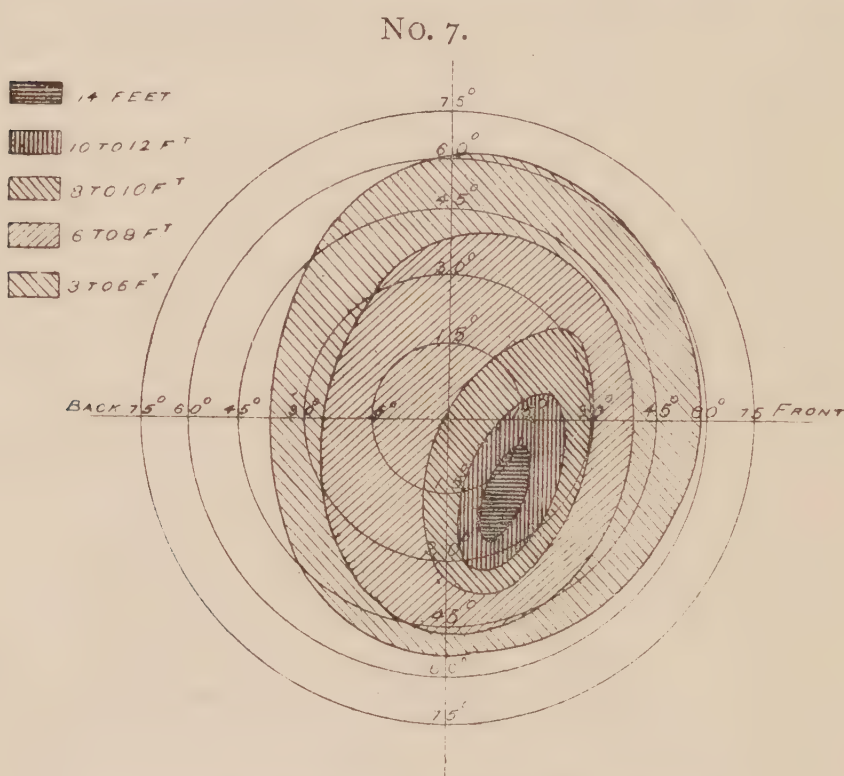
tion of what is usually found in health, although the conditions under which I had to work when examining all these cases, particularly as regards noise and currents of air, were unfavourable to perfect accuracy.

When the hearing in the vertical plane was next examined, it was found that here also the sound was not best heard when opposite the meatus. It was there audible at 10 feet, while at 15 degrees above the range diminished to 8 feet,

40 degrees above to 6 feet, and 60 degrees above to 3 feet and less; but below it slowly increased for 35 degrees, at which point it reached 12 feet, diminishing then to 10 feet at 40 degrees, and to 3 feet and less at 50 degrees as shown in diagram No. 6. The point of most distinct hearing was therefore below the ear.

I need not give the measurements in the other directions in detail, but may combine them into the plan of the field of hearing in diagram No. 7, where the shading shows the most sensitive part of the auditory field.

It is possible that the distribution of the range of hearing,



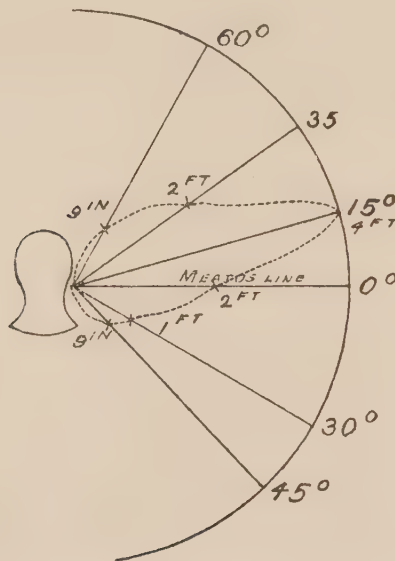
FIELD OF NORMAL HEARING ON LEFT EAR.

and its inequality in different parts of the field, may aid us in the perception of the direction from which sound reaches our ears. The shape of the field and its relation to the meatus bear evidently some relation to the form of the pinna and external ear.

The alterations that take place in disease are of considerable interest. This I may illustrate by taking the right ear of the same patient whose measurements have just been given, and contrasting the results in the two ears. The individual was the only one of my recent patients with labyrinth effusion who possessed the necessary leisure and

intelligence for the examination. Between two of his attacks, and when the disease seemed quite quiescent, the condition of the right ear was as follows: In the meatus

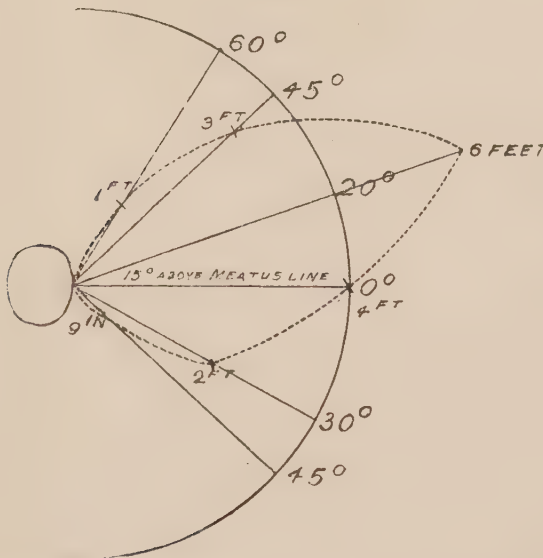
No. 8.



HEARING IN THE VERTICAL PLANE, IN LABYRINTH EFFUSION.

line he heard the watch at 2 feet, 15 degrees above it at 4 feet, 35 degrees above it at 2 feet, and 60 degrees

No. 9.



HEARING IN THE HORIZONTAL PLANE IN LABYRINTH EFFUSION.

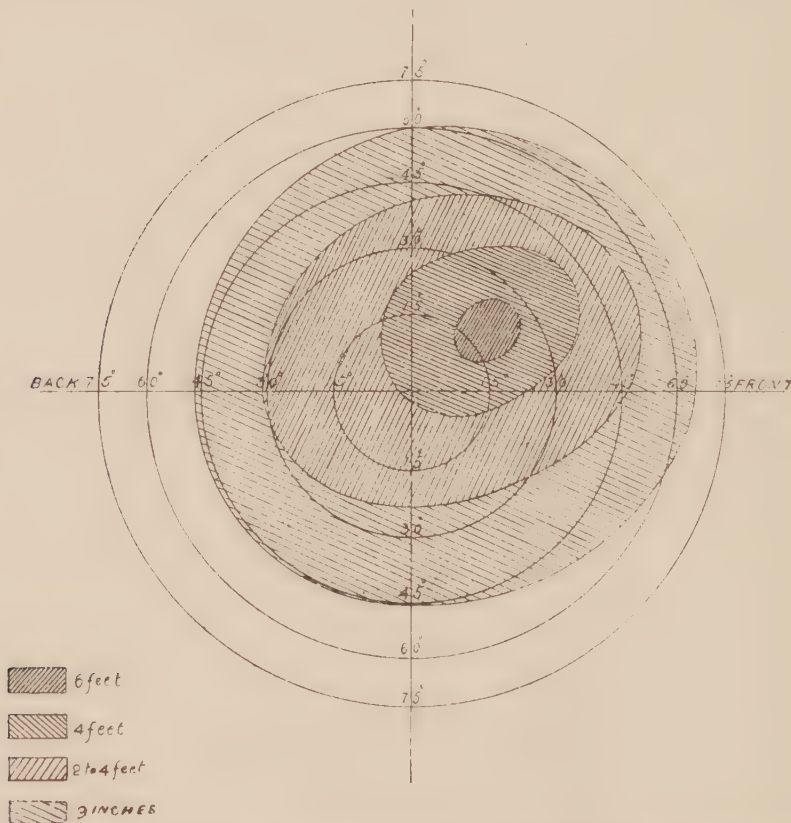
above it at 9 inches. At 30 degrees below the meatus line he heard the watch at 1 foot distance, and 45 degrees below at 9 inches, as seen in diagram No. 8.

The most sensitive point in the vertical plane was thus 15 degrees below the meatus line in place of 35 degrees below in the normal ear.

To ascertain his hearing in the horizontal plane, it was found best to start not from the meatus line, but from the most sensitive point, *i.e.*, 15 degrees above it, as this rendered it easier for the different zones of distinctness of hearing to be made out.

Taking, then, his most sensitive point in the vertical plane, viz., 15 degrees above the meatus line, as the fixed

No. 10.



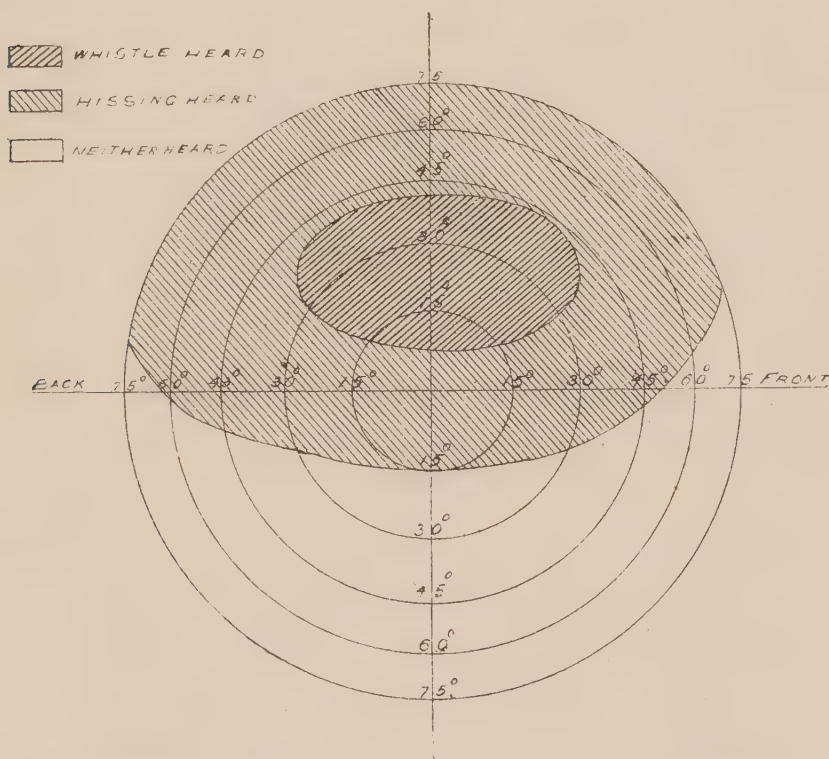
FIELD OF HEARING IN LABYRINTH EFFUSION—RIGHT EAR.

point, and measuring the horizontal plane from it, the results were: 20 degrees forwards the watch was audible at 6 feet, 45 degrees forwards at 3 feet, and 60 degrees forwards at 1 foot; while 30 degrees it was $2\frac{1}{2}$ feet, and 45 degrees backwards 9 inches, as represented diagrammatically in No. 9. This would give a field of hearing on the diseased right ear such as is shown in diagram No. 10. This singular alteration of the field of hearing and the point of greatest distinctness I am inclined to attribute to the

affection of the labyrinth, because the middle ear and drum were perfectly healthy, and the external meatus was of normal shape and free from cerumen, and the cause was therefore not an external one.

These alterations of the point of most distant hearing, by its removal to a different part of the field in cases of disease, may possibly give rise to difficulties on the part of the patient in localizing sound. In one of my patients this difficulty was so decided that when crossing the street, if a

No. II.



FIELD OF HEARING FOR GALTON'S WHISTLE IN LABYRINTH EFFUSION—RIGHT EAR. THE FIELD IS SUPPOSED TO BE EVERYWHERE 6 INCHES DISTANT FROM THE MEATUS.

carriage chanced to be approaching, he became confused, not knowing from what direction the noise of the wheels was advancing, or whether one or more vehicles were producing it. On entering on one occasion a room where a small clock was concealed, he detected its ticking, but failed to discover whence the sound proceeded, and believed it came from the roof, until at last he discovered its source, hidden away behind a small ornament on the chimney-piece.

Testing the perception of musical notes has seldom been done, and little, if anything, is known regarding it. For this the tuning-fork and piano are almost valueless. The ear is more easily tested by instruments of another timbre, and probably bells and whistles could be most readily adapted for the purpose, although not necessarily to the exclusion of other musical apparatus. Galton's whistle is the only musical test that I have found to be of any service.

It is singular that, in disease at least, the field of hearing for musical notes does not correspond with that for ordinary sounds. In the case just quoted, where the field for ordinary sounds on the diseased right ear is given, measurements with the Galton's whistle gave on the same ear a different field. The whistle was first set to the highest note audible by the diseased ear, and then carried to different parts of the field. The result was that it was audible over the upper part of the field 10 degrees above the meatus line to an angular distance of 30 to 40 degrees peripherally above, before, and behind the meatus line, while below that as well as in parts of the field more peripheral than 40 degrees above, before, and behind, the *note* was not heard, but it had lost its musical character, and was heard as a hissing noise. All these measurements were made with the whistle placed at a distance of 6 inches from the meatus. Diagram No. 11 will render this easy of comprehension, and may be compared with No. 10, which is the field of the same ear for common sounds.

As to what concerns the musical sense, or sense of harmony, how far it may vary in different persons, and be affected by disease, and how far, if at all, it is capable of being improved by cultivation, we are in complete ignorance. Those who possess it are always incapable of defining its nature and extent, and use it instinctively without reasoning upon it. The study of the nature and existence of the sense of harmony is surrounded by difficulties, but they can scarcely be insuperable.

The question of the possible accommodation for sound by the pinna and conducting apparatus of the ear, and, if it exist at all, its normal range and how it may be impaired, is one that has never yet undergone a proper investigation. The following experiment, which I have often repeated, seems to me to be tolerably conclusive as to the non-existence of accommodation for sounds, apart from what may be done by merely directing the ear in its most

sensitive direction. A watch is placed upon a table on a thick substratum of cotton wool, so as to deaden all resonation from the table, and, while one ear is carefully plugged with cotton wool, the person making the experiment seats himself with his other ear, which is not plugged, directed to the watch. The individual next, seated on the chair and carefully keeping his head, neck, and throat perfectly passive and free from any muscular contraction, removes his chair inch by inch from the watch until its sound becomes faint. Sloping his head then, so as to gain the point of greatest distinctness of hearing, he slowly removes his chair still further from the watch, until at last he reaches a point where its sound is just lost to him. Then muscular efforts directed to move the pinna and any possible muscles of accommodation are made to ascertain if the watch can be so rendered again audible. Such experiments have invariably given negative results in my hands.

The tensor tympani muscle is, I think, not one concerned in accommodation for hearing, but possesses the function of regulating the amount of air admitted into the middle ear during the acts of swallowing, blowing the nose, etc., and the quantity that shall remain in it after these acts are over. The innervation of the muscle, supplied as it is from the otic ganglion, which also supplies the palate muscles and some of those engaged in deglutition, corroborates this view of its function. The nerves to the muscles acting on the pinna, which might be expected to assist accommodation, proceed from a different source, viz., the facial nerve.

It may, however, be the case that some persons, who possess unusual power over the muscles of the pinna, may be able to accommodate for sounds too faint to be heard without accommodation by means of these muscles and the stapedius, which also derives its supply from the facial nerve.

When we find so many of our younger physiologists and other investigators engaged in the study of subjects that are in themselves almost, if not altogether, worthless, but to which, nevertheless, they devote months and years of labour and genius, it is surely not too much to hope that the dark province into which I have strayed to-night, and which so sorely needs the measuring-rod of the surveyor, will soon undergo a scientific exploration and investigation. Its intimate relation to cerebral physiology and symptomatology renders such an inquiry at the present moment highly important and necessary.

If it should happen that these remarks direct attention to the existence of this great want, and contribute to induce some investigator to endeavour to remedy it, I should certainly feel that my having undertaken to deliver to you the Cavendish Lecture this year will have been justified beyond my hopes.



PRESIDENT'S RETIRING ADDRESS.

Annual Meeting, July, 1890.

GENTLEMEN,

The onward march of time has brought us to the closing stage of our eighth session, which (it is my great pleasure to record) has been marked by steady progress. Our numbers have increased from 305 to 322, our work, though greatly interrupted by the stress thrown upon our members by the influenza epidemic in the middle of the session, has been varied, interesting and of practical utility, and our proceedings have been marked by great harmony, though by no means wanting in vigour and liveliness. The annual report which has been read to you this evening has given you categorically the amount and kind of work done; the Treasurer's report might possibly have been improved by a little more financial energy on the part of members, and the Dinner Committee brings forward a satisfactory statement.

It has been found necessary, in order to promote more smooth and efficient working of our business, to make some alterations in our laws, whilst other rules have had to be tacked on, to meet those changes which our evolution has brought about, such, for instance, as the institution of the Cavendish Lecture and Library.

And here is a fitting place to congratulate the society on the appointment of Cavendish Lecturer for the year. It may be safely affirmed that Dr. Alexander Ogston in his lucid, original and scientific address, attained the ideal which was present in the minds of the founders of this lecture, and not only added to the reputation of our Society, but, by opening up a new field of research, placed within the reach of the profession an opportunity for the gaining of more practical knowledge of some obscure diseases of the nervous system.

Our annual dinner at the Criterion, though not quite so well attended as last year, was, I believe, thoroughly enjoyed by those present; the success of the evening being materially promoted by the singing of Dr. Frederick Roberts and some

of the members of the Savage Club, who most kindly volunteered their services. Dr. Hart Vinen, although prostrated by sickness, again contributed one of his learned menus, which he has made such a notable feature of our entertainments.

But while congratulating ourselves on our prosperity and increase in numbers and on our pleasant meetings, there is another side to the picture, and we have to regret the loss of six members by resignation, and to deplore the removal by death of others. I alluded in my opening address to the untimely decease of Mr. Samuel Benton; and to his name we have to add those of Drs. Grosvenor Royston, and Christie, and of Mr. Charles William Pridham, as amongst the number of those who have ceased from their labours.

Dr. Grosvenor took a lively interest in the society, though of late he had not attended many of the meetings. During the period when I held the office of secretary, he acted as one of the auditors, and expressed at the time his satisfaction with the progress and management of the society. Amongst the members who have resigned, owing either to removal from London or to their having to meet other engagements on our meeting nights, are several who have contributed to our proceedings and debates, notably Mr. Jonathan Hutchinson Jun., Mr. Bernard Pitts, Brigade-Surgeon Scriven, and Fleet-Surgeon Alexander Turnbull. The last named we have to congratulate on well-merited promotion.

Finally, as to society matters, I have had it brought to my notice that some have expressed the opinion that this society is getting like some other societies are stated to be, an airing ground for the views of specialists and young consultants, and drifting away from its original purpose as the scientific home of the general practitioner.

Nothing can be further from the mark than this. Of our eight Presidents up to the present time, six have been general practitioners, and you have to-night accorded your votes and welcome to a seventh, who will worthily sustain the dignity of the chair.

If general practitioners have not read the bulk of the papers, who is to blame but themselves? We cannot make them write papers; but if they do, they will be heartily received—above all, such as set forth the details of one or two interesting cases, occurring in the daily round of practice.

In my opening address on the "Beginnings of Disease," after laying down, on the lines of Dr. Campbell's work on the causation of disease, the methods by which we could trace the inception of morbid processes, I took occasion to consider how the theories then advanced could be turned to practical account by this society.

My project was for the society to appoint a sub-committee to draw up a card or case-taking form, so arranged that it would show at a glance the structure of a patient, as compounded by hereditary influence and past environments. It was my idea that such a card might be of use for patients to have by them, so that if they had occasion to seek the advice of a fresh doctor, or if, perchance, they were seized by sudden illness or overcome by accident in a strange place, or if they were the unfortunate victims of idiosyncrasies as to drug action, they might have *that* about them which would secure their treatment on the lines most suited to their constitutional peculiarities. It was also in my mind, that if practitioners generally got into the habit of taking cases on this broad and scientific principle, new facts would be noted, new correlations of phenomena would become apparent, settled bases of therapeutics might be founded, and medicine be brought more into line with the exact sciences. And doubtless much of this may yet be attained, though constant thought during the session, and the interchange of ideas with others on this subject, have shown me that the plan cannot at present be carried out in its entirety; and in so far as the handing over to patients of filled-up forms goes, the idea must for the present be abandoned. The reasons for this will be obvious to all, more especially such points as the mention of disease causation by syphilis and drink; sufferers from these causes, though anxious enough to get their attendant to "cleanse them from their secret faults," would not care to carry with them a written witness and accuser. Nor is this all; insanity and consumption amongst other diseases may open up social questions of serious import, and it would be unsafe to note such matters in a document which might be accessible to interested, and, it may be, unscrupulous and designing persons.

On these and some other grounds I found it impracticable to pursue this portion of my scheme, but the same objections did not apply to the drawing up of case-taking forms on the suggested theory for use by medical men only, and your

council very readily appointed a sub-committee, consisting of Drs. Thudichum, Abraham, and Batten, Mr. Gunton Alderton, the two secretaries, and myself, to consider the matter and report.

The sub-committee met and discussed a form which I had drawn up, and having made several valuable suggestions, they approved of a scheme which was submitted to your council, and was passed by that body, and, further, I was empowered to bring it before you to-day for your endorsement.

And here let me remark that I do not desire to put the society to any expense in the matter; it will be to me a gratification to present the society with the stereotyped form, if it considers the way of case-taking practical, and sufficiently useful to be submitted to the profession under its auspices. It is natural that, having set myself and the society a task at the commencement of the session, I should wish to show a practical result; and I hope the society *will* consider it of practical utility, and try its worth by the test of use in actual daily work, and not only so, but endorse it as the case-taking form of the West London Medico-Chirurgical Society.

It will have been seen from this explanation that the object of the form is by no means to supply a tabular statement suitable to any and every form of disease; such a work as this could only be carried out by having a series of forms suitable for different complaints, such as pulmonary, renal, or ophthalmic cases. The object of this form is to let the physician see at a glance what kind of individual constitution he has to deal with, and how the individual constitution in question came to be so constituted. The information thus presented to the eye, will at once suggest what is to be avoided and what is to be desired, with a view to the restoration of health in any particular case; it will point out what habits are to be counteracted and what contracted, what course of dieting to follow and what to keep away from, what environments to seek and what to avoid; in short, it will point out the line of safety for each organization submitted to this method of study.

It is a familiar thing to us to notice that where four or five persons are exposed to some mal-influence, such as a severe wetting or chill, that one may get bronchitis, one nephritis, a third diarrhoea, and another rheumatic fever. Let us

submit this instance to the test of our method of examination. Here we have four structures exposed to the same environments; therefore, if $S + E = \text{disease}$, E , being the same in all four cases, it follows that S , in each case, has been different. Had we taken each of the four cases by the method of our case-taking form, we should doubtless have found how the lungs in the one and the kidneys in the other case, came to be the suffering organs. The seeming anomaly disappears under the light thrown by the converging rays of heredity and previous environments, and the structure stands disclosed, analyzed and luminous; nay more, its very synthesis becomes apparent at a glance. By means of the forms we may hope to arrive at a method, by which all the main features of cases may be taken; and the advantages of having a plan capable of being used by all practitioners, and founded on a scientific view of bodily structure and development, are too obvious to need further exposition.

During the session an unexpected and striking object-lesson, illustrating these views, came before the profession in the epidemic of influenza. Then the whole population was subjected to a strange environment; it cannot be denied that for the most part this environment was the same for all, yet how different the result. In some cases we had chest affections, in some neuralgias, in others throat inflammations; in other words, the poison affected injuriously that part of the structure which was weakest, and so in the same disease, under the same mal-environment, we had the opportunity of watching symptoms, Protean in their variety. I cannot doubt that had the cases been investigated on the principles of these forms, the influences of heredity and past environments would have shown themselves clearly to be the antecedent causes of the varied symptoms.

Much as I should like to dwell upon this subject, time forbids, and I must therefore, in conclusion, draw your attention, as it is also drawn in the foot-note on the case-taking form, to two main facts, that disease is, for the most part, a slow process, and that the present condition or structure of any person is the result of two factors—heredity and past environments. Above all is it to be remembered that environments are powerful in modifying structure in proportion as they act early in the life of the individual. What a plea is this for enforcing on parents, and instructing them in, their duty towards their helpless offspring!

In leaving this chair it is no small satisfaction to feel that

the interests of the society are to be entrusted to the capable hands of your new president, Mr. Gunton Alderton. Having had the pleasure of working with him, I know him to be one who is "not slothful in business" and deeply interested in the society's welfare, and I feel confident that you will accord to him the same hearty welcome on his accession to office, the same kindly support and cordial co-operation during his occupancy of the chair, which you have in the present session given to myself, and for which I tender you my most grateful thanks.



ADOPTED BY THE

At the Annual Meeting, July 1890, on the suggestion of H. CAMPBELL POPE, M.D.LOND. F.R.C.S., President of the Society.

[illegible]

HEREDITY.					PAST ENVIRONMENTS.			
NATIONALITY.		FATHER				HEALTH OF PARENTS DURING 12 MONTHS PRECEDING BIRTH.	MOTHER	
		MOTHER					FATHER	
FAMILY HISTORY.	AGE.		HEALTH.	CAUSE OF DEATH.	AGE.	FEEDING DURING INFANCY.		
	GRANDFATHERS (a) <i>Paternal</i>					VACCINATION.		
	(b) <i>Maternal</i>					EARLY LIFE SPENT IN TOWN OR COUNTRY.		
	GRANDMOTHERS (a) <i>Paternal</i>					EDUCATION.		
	(b) <i>Maternal</i>					EARLY OCCUPATIONS AND HABITS.		
	FATHER					ZYMOTIC DISEASES.		
	MOTHER					OTHER DISEASES.		
	BROTHERS.		SISTERS.			PERMANENT EFFECTS IF ANY OF PREVIOUS DISEASES OR OF RESIDENCE ABROAD.		
	AGE.	HEALTH or CAUSE OF DEATH.		AGE.	HEALTH or CAUSE OF DEATH.		HABITS AND MODE OF LIFE.	
	Insert below further particulars when of interest or about remote relations.							

[illegible]NOTES OF ILLNESSES.

N.B. The Medical History form is drawn out in this way to bring into prominence two facts, (I) that disease is for the most part a slow process, (II) that the present condition (structure) of any person is the result of two factors, Heredity and past Environments. It is to be remembered that Environments take effect in modifying structure in proportion as they act early in the life of the individual.

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